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All About Life and Death

A Basic Dictionary of Life and Death
Volume Two

by Cho Chikun, Honinbo

Translated by Bruce Olson

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Preface

These two volumes are a collection, in dictionary format, of shapes from the basic to the practical, in which the issue is the life or death of the groups involved. While it is presented in a problem format, you shouldn't feel compelled to use it like you would a book on tsume-go (life-and-death problems), wrestling with every problem from beginning to end. On the contrary, this book is better suited to slapping lightly from place to place as the mood strikes you or as your needs require. For example, both leafing through the book, stopping to carefully study only those shapes which interest you, or going directly to the solution diagram without working through the problem, are excellent ways to use this book. In fact, my fondest wish would be for you to keep the book on your bedside table and fall asleep while looking over a page or two. The objective of this book is to have you gradually yet painlessly acquire an appreciation for a basic approach to the problem of life and death in go.

In anything, the fundamentals are important; if you neglect them your performance will surely suffer. For example, the very first pattern in this text utilizes the three-space nakade (large eye inside a group) shape. Since all life and death problems in go boil down to a question of one eye or two, this shape must be considered the most basic. If you are able to learn to think about problems of your own as a question of 'How can I reduce this to the three-in-a-row shape?' and then compare this to the time when you didn't think about a problem in that way you'll be able to see that you've made significant progress.

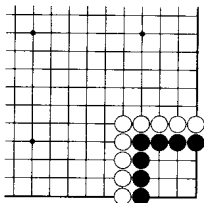
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Cho Chikun

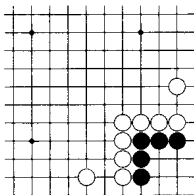
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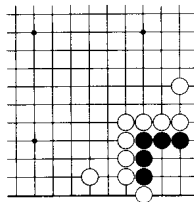
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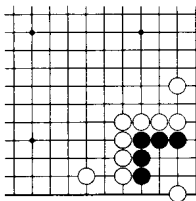
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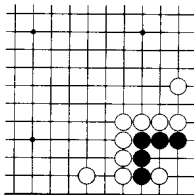
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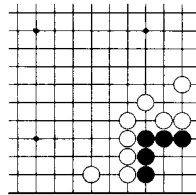
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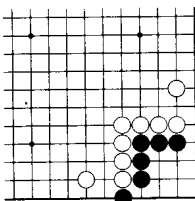
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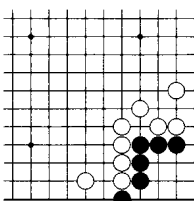
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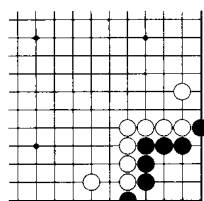
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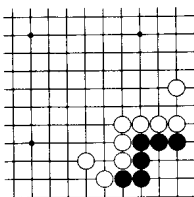
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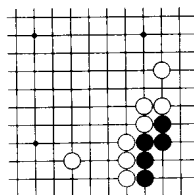
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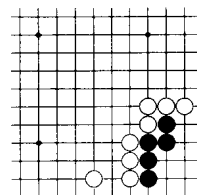
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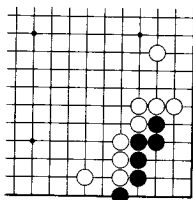
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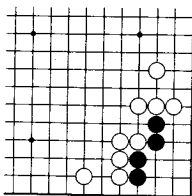
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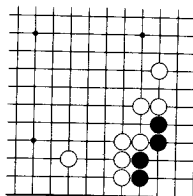
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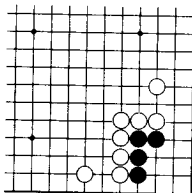
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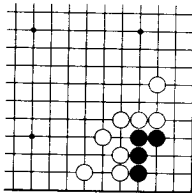
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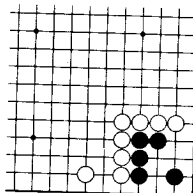
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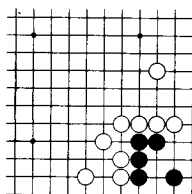
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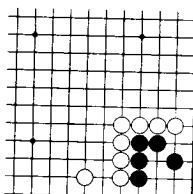
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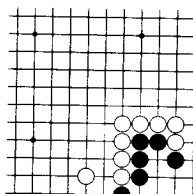
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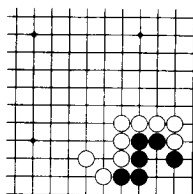
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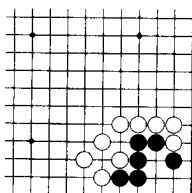
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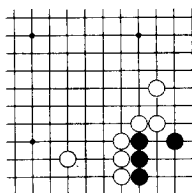
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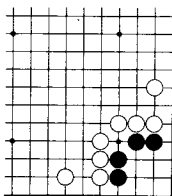
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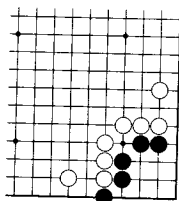
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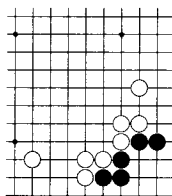
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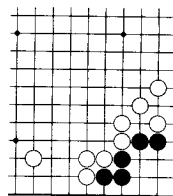
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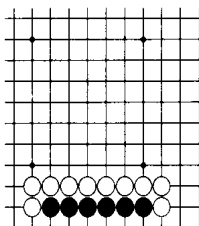


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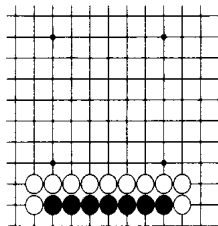


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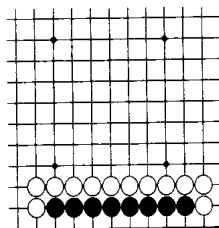
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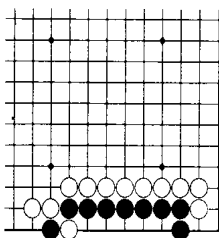
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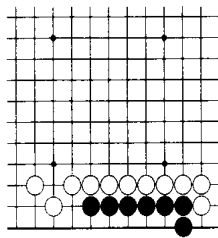
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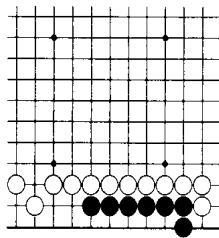
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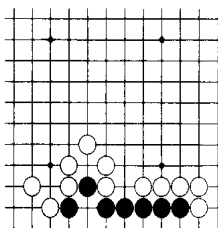
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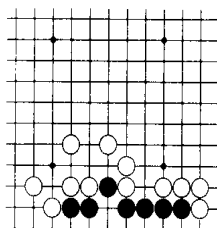
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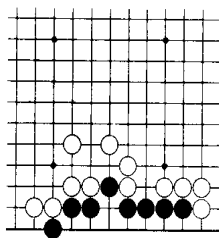
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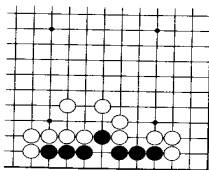
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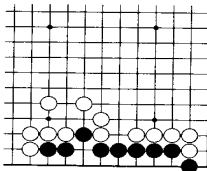
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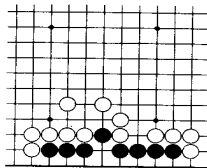
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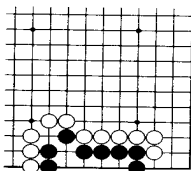
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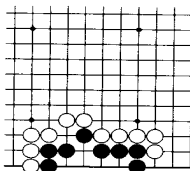
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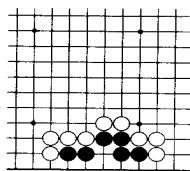
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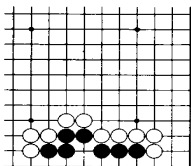
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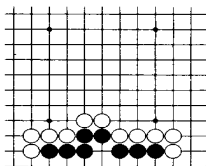
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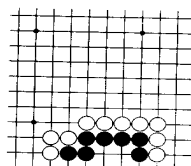
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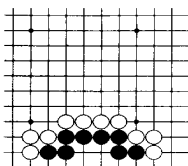
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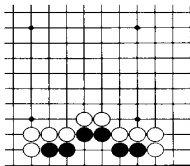
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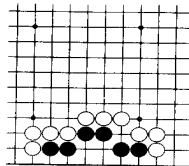
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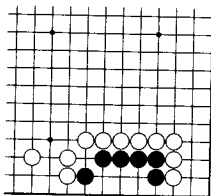
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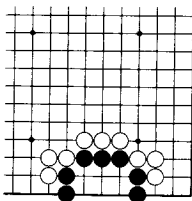
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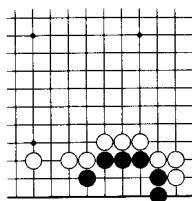
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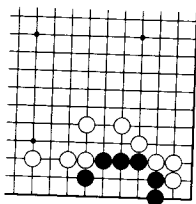
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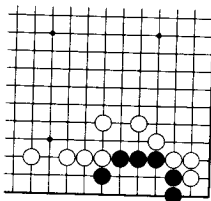
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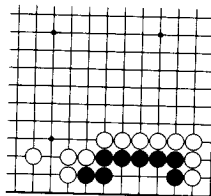
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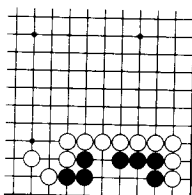
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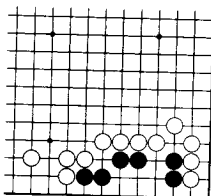
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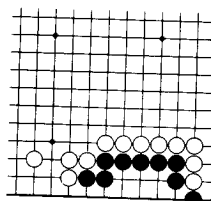
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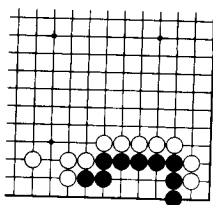
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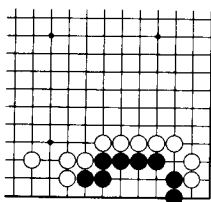
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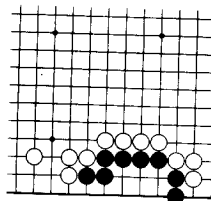
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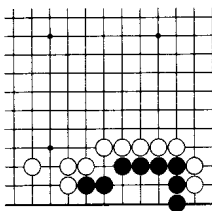
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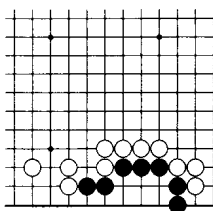
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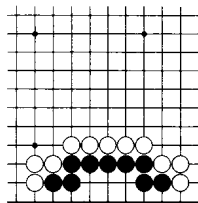
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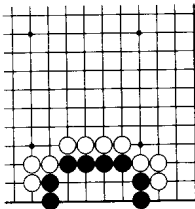
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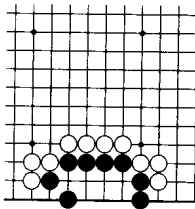
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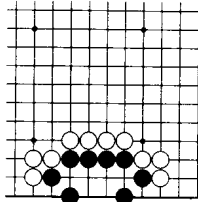
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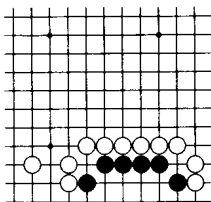
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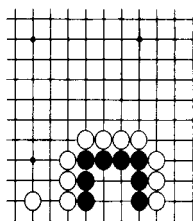


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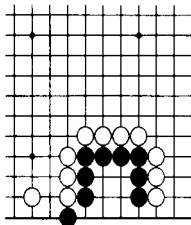


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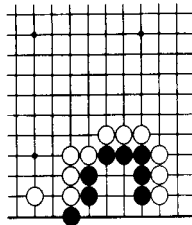
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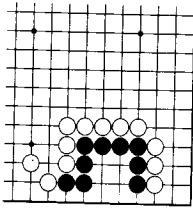
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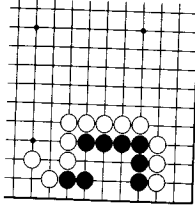
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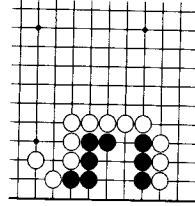
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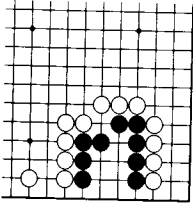
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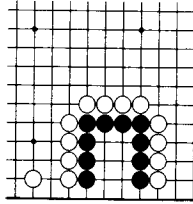
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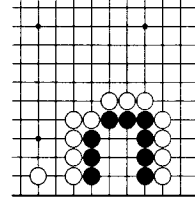
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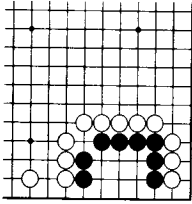
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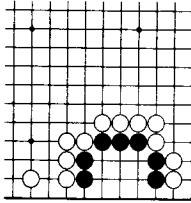
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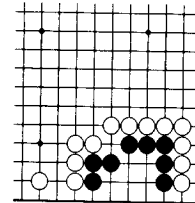
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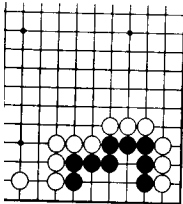
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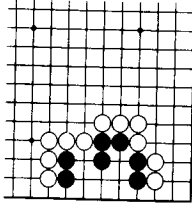
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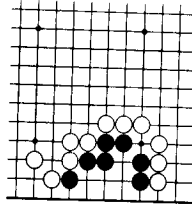
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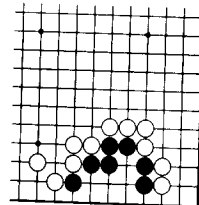
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(293)

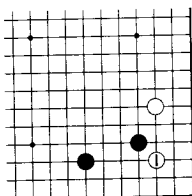


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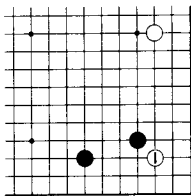


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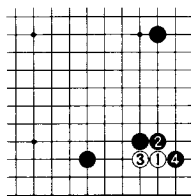
Part Nine Applications: The Star-Point and the 3-3 Point



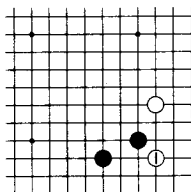
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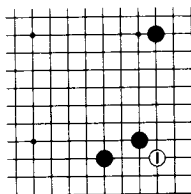
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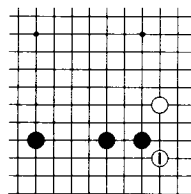
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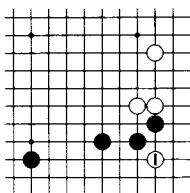
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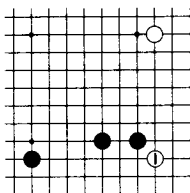
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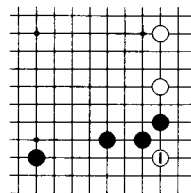
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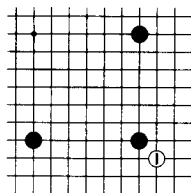
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(314)



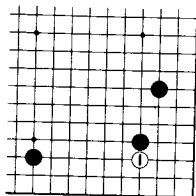
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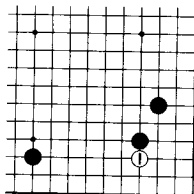
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Part Ten

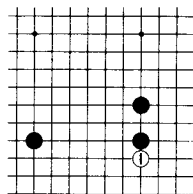
Applications: Various Ways of Invading



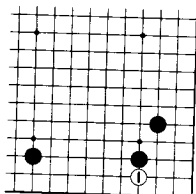
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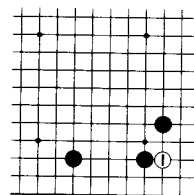
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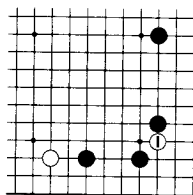
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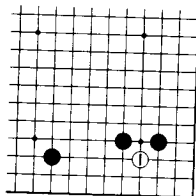
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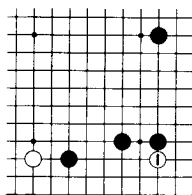
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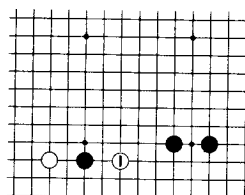
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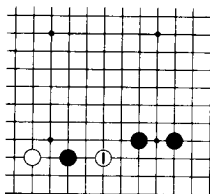
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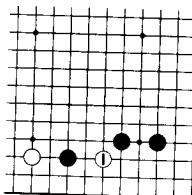
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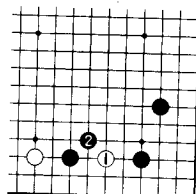
(340)



(342)



(344)



(346)

Explanatory Notes for Using this Book

The captions for the diagram explanations provide an indication of the likely solution.

Four different titles are used for the diagrams: Solution, Failure, Variation, and Reference.

When there is more than one possible 'correct' solution, they will appear as Solution 1, Solution 2, etc (Note: The first solution is usually slightly better based on such things as its impact on the surrounding territory.)

In the diagrams labeled „Variation“ the side with gote (last move) has made a mistake.

Diagrams which contain supplemental information are labeled 'Reference'.

When a pattern is labeled „Black is dead“ it means that Black cannot live even if he plays first. When it says 'Black is alive' it means that White cannot kill Black even if White makes the first move.

In those cases where it is stated that 'Black is alive' or 'Black is dead' the associated diagrams are all labeled 'Variation'.

The numbers underneath the diagrams in the Index show the page number where that problem may be found.

Where common Japanese terms are used, the first such usage is followed by a short definition.

Glossary

aji - potential (options, possibilities)

atari - the threat to capture a stone or group of stones on the next move.

gote - a move not requiring an answer; losing the initiative. Compare sente.

hane - a diagonal move played from a friendly stone in contact with an enemy stone.

miai - points of exchange; interchangeable points.

nakade - a big eye.

sente - a move that must be answered or an unacceptable loss will be suffered. Compare gote.

tesuji - a skillful tactical move.

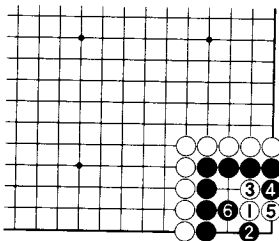
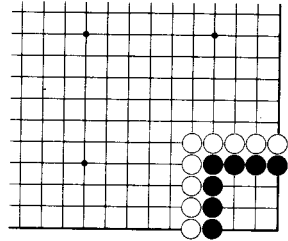
Part Five

The Carpenter's Square

Pattern 1

Black is alive

Black has descended to the first line, making a picture-perfect carpenter's square. It doesn't look much like a shape which could come up in actual play, but it's useful to try and understand the true nature of this shape before going on.

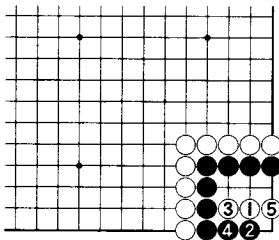


Variation 1

Variation 1. The placement is the vital point

From White's point of view, the vital point is the placement at 1. After this there are a number of variations, but Black will get a seki or better. There's no way to get a bad result.

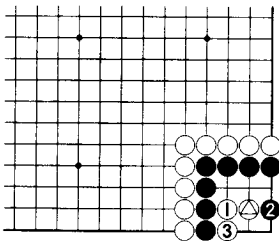
When Black attaches at 2, if White plays 3, Black gets a seki with 4 and 6. Black can also simply play 4 at 6.



Variation 2

Variation 2. Seki

After White 1 and Black 2, if White runs headlong into Black's wall with 3, Black can just connect at 4. When White descends to 5, it's possible for Black to play elsewhere, if he chooses. White can make neither a 5-spare big eye nor a *flowery-six*. This is a seki.



Variation 3

Variation 3. Playing elsewhere

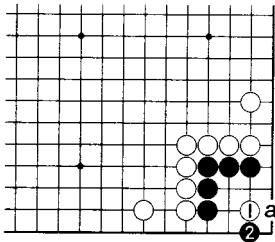
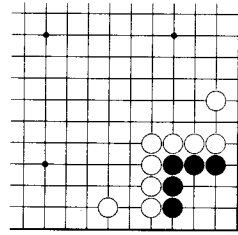
In response to White's placement, what happens if Black plays elsewhere? Even in this case, Black won't die unconditionally.

Black answers White 1 by attaching at 2. The shape arising after White 3 is a ten-thousand-year ko.

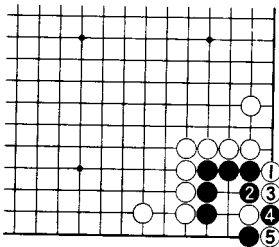
Pattern 2

White to play and make a ko

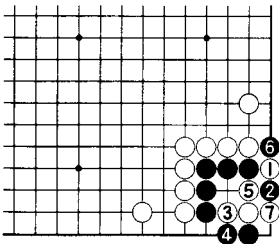
This is the form of the carpenter's square which is normally seen in actual play. The variations change depending on whether or not all of the outside liberties are filled in. First, let's take a look at the case where all the outside liberties are filled in.



Solution 1



Solution 2



Variation 1

Solution 1. Attachment

For White, attacking with the placement at 1 is the correct move. There are other possible moves, but we'll deal with them separately.

For Black's response, the attachment at 2 (or at 'a') is best. In the carpenter's square, just as in other shapes, the play on the 2-1 point proves to be very effective.

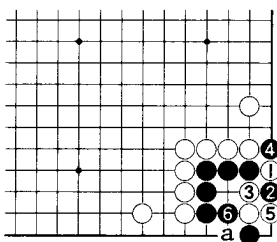
Solution 2. Hane

To continue, White's hane at 1 is a good move. The idea is to play on the opposite side from where Black made his attachment. If Black plays 2, White crawls in at 3. All Black can do is throw in at 4 to start a ko.

This diagram is typical of the solutions to this shape.

Variation 1. Five-space big eye

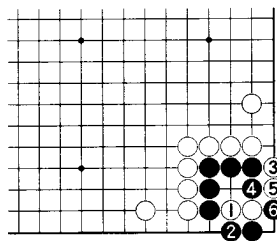
This is a variation on the previous diagram. When White makes the hane at 1, blocking with Black 2 is a mistake. After the exchange of White 3 for Black 4, the cut of White 5 becomes a good move, and after White 7, Black is dead. You should confirm for yourself that White 5 is the vital point for making a five-space big eye.



Failure 1

Failure 1. Too hasty

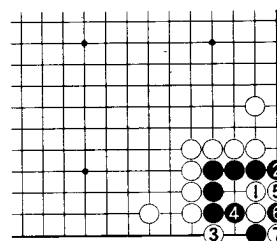
Black 2 was a defensive mistake in answer to White 1, but for White blocking at 5 after playing 3 is also a mistake. Black answers at 6 and the result is a ko. If White plays at 6 instead of 5, Black dies after Black 'a', White 5.



Solution 3

Solution 3. The same ko

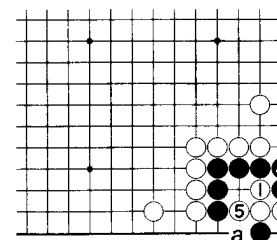
Going back to the beginning, in response to Black's attachment underneath, White can play the bump of 1. After Black 2, if White plays a hane at 3, as you would expect, Black has no alternative but to play 4, so White 5 and Black 6 produce a ko. Comparing this to Solution 2, except for the exchange of White 1 for Black 2, there is no difference in the result.



Solution 4

Solution 4. The second ko

In response to Black's attachment underneath, what happens if White pushes in the opposite direction? After Black 2, White plays a hane at 3, then, in response to Black 4, turning at 5 is important. With Black 6 and White 7 we have a ko. This is the second possible ko in this shape, and, is also a correct solution.

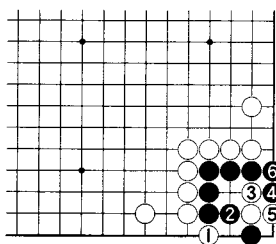


Variation 2

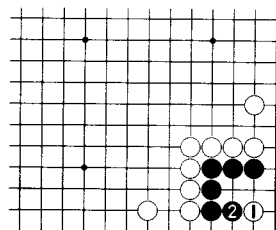
Variation 2 A poor move

This is a variation on the previous diagram. Answering White 1 with a hane at Black 2 is a poor move. After White 3 and Black 4, pushing into the wall with White 5 is the vital point. Now, *even* if Black defends by playing at 'a', White has already killed the black group with a five-spore big eye.

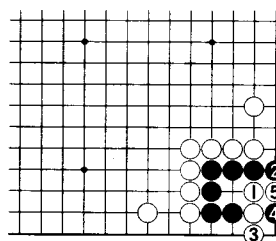
Failure 2. Hane on the opposite side



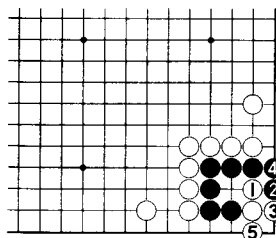
Failure 2



Variation 3



Variation 4



Variation 5

After Black has attached underneath the white stone, it's not good for White to play a hane from this side with White 1. After Black 2, White has no choice but to push into the black wall with 3 and answer Black's hane at 4 by blocking with White 5. Up to 6, Black has managed to get a seki.

Variation 3. A vulgar play

Most people not familiar with the carpenter's square would probably play Black 2. This, however, can be considered a vulgar move, and, especially in the case where all Black's outside liberties are filled in, it ends up unconditionally dead.

Variation 4. Black loses

To continue, White plays the bump at 1. If Black descends to 2, White also coolly descends to 3. Black plays 4, trying to get a seki, but White blocks at 5 and this shape is a kind of capturing race. Unfortunately, because it's a one-eye group against a no-eye group, Black loses the race.

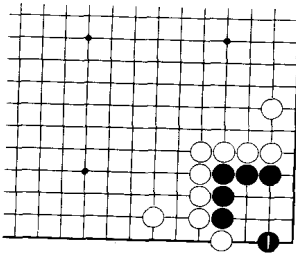
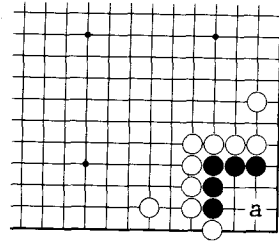
Variation 5. Sudden death

If Black plays 2, White makes an eye with 3 to 5. As might be expected, Black again loses the capturing race. In addition, White has created a big eye, so Black would be dead even if he could win the race.

Pattern 3

Black to play and make a ko

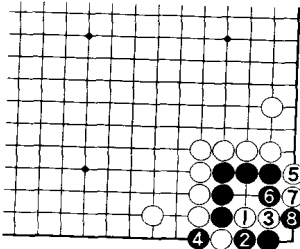
Instead of making the placement at the 2-2 point, White has played a hane on the bottom edge. White can win if Black falls into his trap, but in fact this also becomes a ko. For Black, though, finding the correct response is not all that easy.



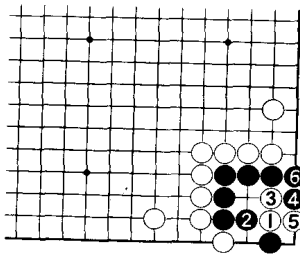
Solution 1. Evasion

As you might have thought, Black must dodge to Black 1. While it's certainly an unlikely looking shape, occupying the vital point in the corner is the most tenacious way to play. The variations are shown in the succeeding diagrams.

Solution 1



Solution 2



Variation 1

Solution 2. Throw-in

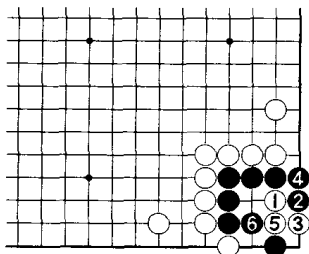
Black answers the white hane at 1 by cutting at 2. After White 3 and Black 4, the white hane at 5 is answered at Black 6, and when White plays 7, Black throws in at 8, producing a ko.

If instead of 2, Black defends at 3, after White 5, Black 7, and White 2 he ends up dead, so be careful.

variation 1. Seki

Now let's look at one more alternative, beginning with White 1. Black can defend, however, with 2 and answer White 3 by playing a hane and connection at 4 and 6 to make a living shape.

This results in the same diagram as in the previous pattern.

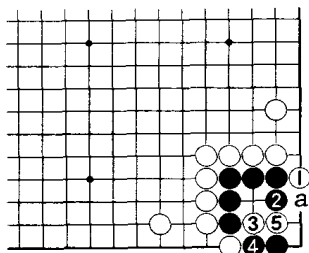


Variation 2

Variation 2. Belly attachment

White 1 is also a confusing play. However, this is a poor move, since Black can play 2 and live. After White 3 and 5, Black 6 is the vital point for making this shape a seki.

In the middle of this sequence, if White plays 5 at 6, Black cuts at 5.

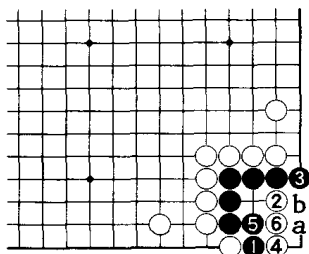


Solution 3

Solution 3. Hane

White's hane at 1 is also a cunning play. Black has no choice but to turn at 2, and now if White plays 3 and 5, it becomes the same shape as in Solution 2.

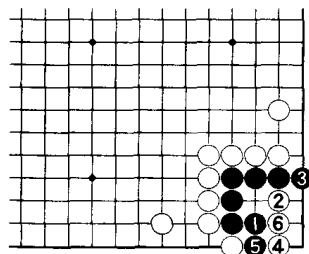
As far as blocking with Black 2 at 'a' is concerned, you can verify for yourself that when White plays a hane at 3, Black dies.



Failure 1

Failure 1. A trap

Back at the beginning, blocking with Black 1 is a trap. Attaching at White 2 is a good move. When Black plays 3, White plays atari at 4 and connects at 6, and there is no way for Black to live. Even if Black plays at 'a', White blocks at 'b' and Black loses the capturing race.



Failure 2

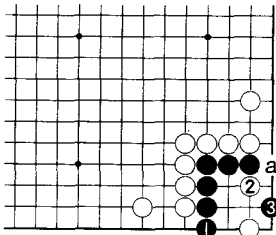
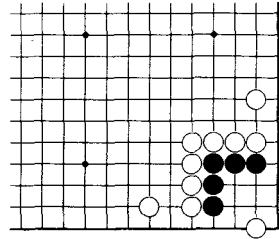
Failure 2. Same result

Turning at Black 1 is also disappointing. White again has the attachment at 2 and after Black 3, White 4 becomes a good move. Black 5 and White 6 produce the same result as in the last diagram.

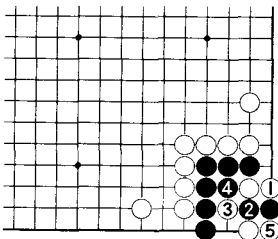
Pattern 4

Black to play and live

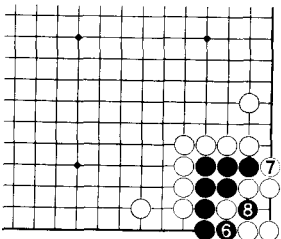
White has started by playing at the 2-1 point. This is a well-known trap of the carpenter's square when all its outside liberties are filled in. If Black plays correctly, he lives unconditionally, but unless you read it out very carefully, the probability of dying is great.



Solution 1



Solution 2



Solution 3

Solution 1. Open and aboveboard

At any rate, Black has to prevent White from connecting underneath, and the straightforward way of playing, descending to 1, is good enough. White will likely continue his attack with a belly attachment at 2. In response to this, the placement at Black 3 is absolutely the only play. If Black plays at 'a' instead of 3, White will play 3 and it'll be all over.

Solution 2. Sacrifice two stones instead of one

When White continues by blocking at 1, pushing up with Black 2 is a nice move. It's a technique of throwing away two stones instead of just one in order to lead White into a shortage of liberties. Black answers White 3 by cutting at 4, forcing White to capture with 5. Next —

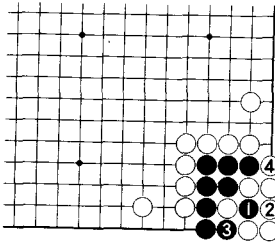
Solution 3. Quietly

Quietly playing atari with Black 6 is important. When White connects to the outside with 7, Black captures with 8 and the two stones in the corner are captured as well. While flirting with the danger of his own

shortage of liberties, Black pulls through by a hair's breadth.

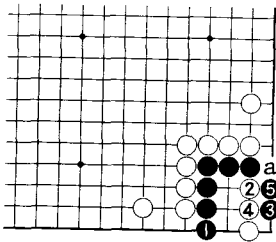
Instead of Black 6 —

Failure 1. Careless



Failure 1

Black could inadvertently succumb to the natural inclination here to throw in at 1, so be careful. This is a terrible 'thank you' move for White, since when Black plays 3, White can now connect underneath at 4 and no longer suffers from shortage of liberties.

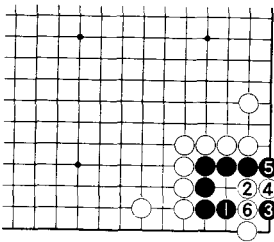


Solution 4

Solution 4. Seki

After Black 1 to 3, if White connects at 4, Black can also simply connect at 5. This shape is a seki.

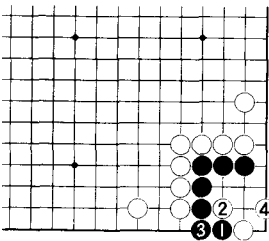
Also, if White tries to connect under with 4 at 'a', Black can either push up at 4 and get life or cut at 5 and get the same seki as before.



Failure 2

Failure 2. Shortage of liberties

In trying to prevent White from linking under, turning with Black 1 is a bad move. After White 2 and 4, Black is forced to block at 5 and when White connects at 6, Black loses the capturing race due to his own shortage of liberties. Playing Black 1 is like tightening the noose around your own neck.



Failure 3

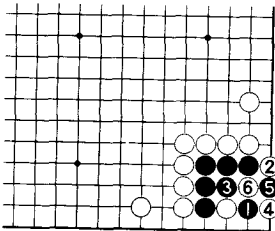
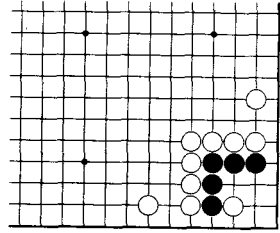
Failure 3. Straightforward

The diagonal attachment of Black 1 here isn't very satisfactory either. After White plays atari and occupies the 2-1 point with 2 and 4, Black can't win the capturing race, and even if he could, White has a four-space big eye.

Pattern 5

Black to play and make a ko

This time White has made the belly at attachment. This is also a powerful play against the Carpenter's Square which has all of its outside liberties filled in, so even if Black plays correctly all he gets is a ko.

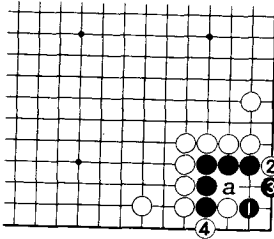


Solution 1

Solution 1. Atari at the blind spot

Black should attach at 1 in this position. When White plays a hane at 2, Black must be very careful. Playing atari with 3 is his best move, then when White attaches at 4, throwing in at 5 produces a ko.

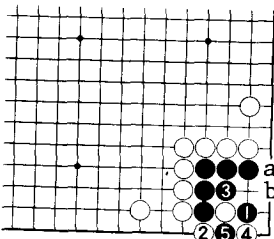
In this position Black 3 can be difficult to find.



Failure 1

Failure 1. Shortage of liberties

It's tempting to block at 3, but White connects underneath with 4 and Black is undone by his shortage of liberties: he dies. Note that Black cannot play atari at 'a'.

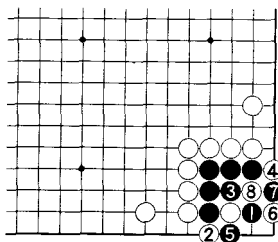


Solution 2

Solution 2. White links under

When Black attaches at 1 there is also a variation where White crosses under immediately with 2. As you would expect, Black has no choice but to play atari at 3, and White defends with 4 to produce a ko.

If instead of 3, Black descends to 4, White 'a', Black 'b', and White 5 kill the black group.

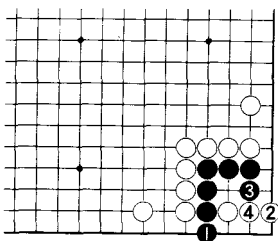


Solution 3

Solution 3. The same ko

This is a variation of the previous diagram.

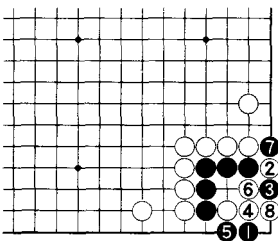
After Black 1 and 3, White might also try playing a hane at 4. Black captures at 5 and answers White's attachment at 6 with the throw-in at 7. This is the same ko that we saw in Solution 1.



Failure 2

Failure 2. A trap

In the beginning, descending to 1 in order to prevent White from connecting underneath is a trap. White's jump to 2 is a good move. White then answers Black 3 by connecting at 4 and we have a shape in which, as we've already seen any number of times, Black loses the capturing race and dies.

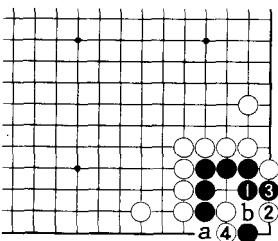


Failure 3

Failure 3. The vital point, but...

There is no doubt that Black 1 is usually the vital point of this shape, but here it doesn't work. White's hane at 2 is a good move. When Black blocks at 3, White 4 and 6 are a nice combination. Up to 8, Black is unconditionally dead.

Instead of Black 3 –



Failure 4

Failure 4. Miai

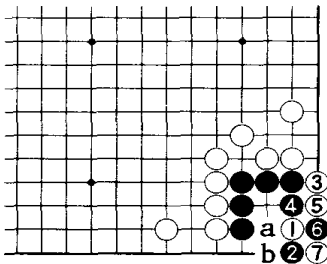
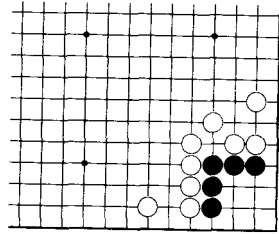
If Black turns at 1, White has the placement at 2. When Black plays 3, White will block at 4 and, because 'a' and 'b' are miai, Black dies.

In addition to this, if Black decides to play 1 at 2, you should verify that White 1, Black 3, and White 'a' also lead to Black's death.

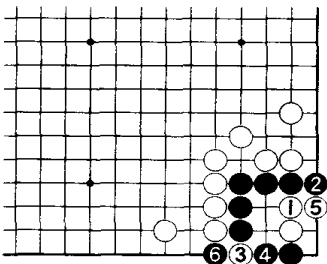
Pattern 6

White to play and make a ko

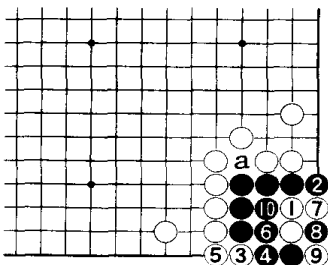
This is the carpenter's square with an outside liberty. When there is an extra liberty White's alternatives are more limited, but by searching for the best possible move, White can still get a ko.



Solution 1



Solution 2



Variation 1

Solution 2. The same idea

The answer, of course, is the placement at White 1; nothing else works.

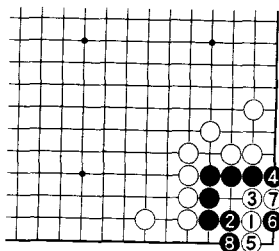
Black 2 also turns out to be a good way of defending. From White 3 to 7 a ko results, but this is identical to the case when all of the outside liberties have been filled in. If instead of 3, White exchanges 'a' for Black 'b', the result is the same.

Failure 1. Ten-thousand year ko

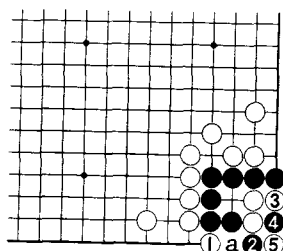
In the variation where Black's liberties were all filled in, after Black attached underneath, White could play the bump at 1 first and still get a ko. When Black has an outside liberty, after White plays 3, Black 4 becomes the vital point White has to block at 5 and Black captures at 6. This shape is a ten-thousand-year ko.

Failure 2. Led into a shortage of liberties

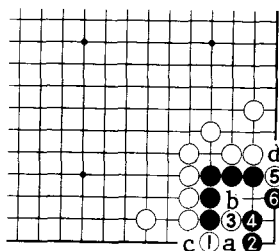
After White 1 and Black 2, what about playing the hane and connection of White 3 and 5? After Black connects at 6, Black answers White 7 at 8 and with Black 10 lives by catching the white stones in a shortage of liberties.



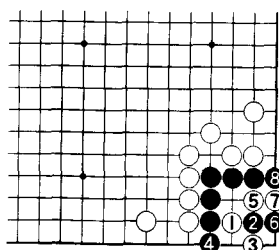
Failure 3



Solution 2



Failure 4



Failure 5

Failure 3. Turning is also effective

After White 1, Black 2 is vulgar, but when Black has an outside liberty, this is adequate. After White 3 and Black 4, the descent at

White 5 is a mistake. Even if White answers the attachment at Black 6 by heading him off with 7, Black's outside liberty allows him to win the capturing race.

Solution 2. The second possible ko

Instead of 5 in the previous diagram, White has to play a hane as at 1 here. In that event, Black has no choice but to play a hane at 2 and the sequence White 3, Black 4 produces a ko.

If instead, Black plays 2 at 'a', White plays 3 and kills him.

Failure 4. Hane

When Black has an outside liberty, a white play at the 2-2 point is the only play which works.

In answer to White's hane at 1, Black plays 2. When White follows up at 3, defending at 4 is a cool response. Answering White 5 by blocking at 6 is good, and after the sequence White 'a', Black 'b', White 'c', Black 'd', Black is alive.

Failure 5. The attachment

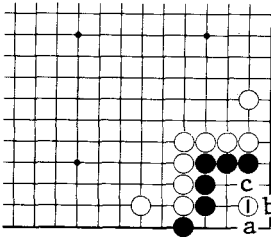
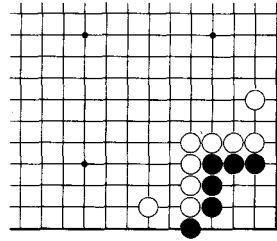
White's attachment also misfires after Black defends at 2. Answering White 3 by descending to 4 is the strongest way to play. Black then answers White 7 by blocking at 8 and wins the capturing race.

In the middle of this sequence, if White links under with 3 at 4, Black descends to 3 and it reverts to the previous diagram.

Pattern 7

White to play and make a ko

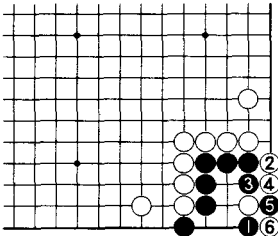
Black's liberties are filled, but this time Black has a hane in place. To give the result in advance, the hane doesn't prove to be all that important. Just as we've seen so far, if it's White's turn he can get a ko.



Solution 1. Three possibilities

As before, the vital point is White i here. In response, Black has three possible correct ways to defend, at 'a', 'b', or 'c'. In the following diagrams we will look at each one, in order

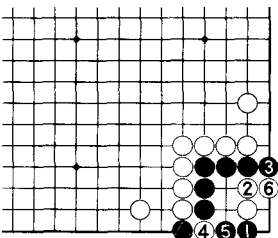
Solution 1



Solution 2 A representative ko

First, the attachment at Black 1. In answer to White 2, Black turns at 3 and after White 4, Black throws in with 5 and gets a ko. This result is similar to several of the solution diagrams which have appeared so far.

Solution 2

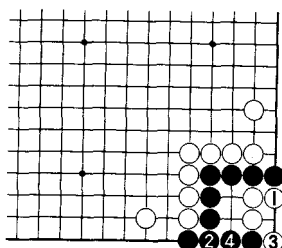


Failure 1. Ten-thousand year ko

After Black i, what about playing the bump of White 2? If the marked Black stone were not in place, this would also lead to a ko, but, because of this stone, the story changes. After White 4 and Black 5, White must block at 6, producing the ten-thousand-year ko position.

Instead of White 4 –

Failure 1

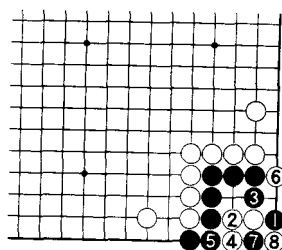


Failure 2

Failure 2 The same thing

It makes no difference if White simply plays at White 1: it still becomes a ten-thousand-year ko.

This ten-thousand-year ko often results from the carpenter's square position, so it will be dealt with separately.

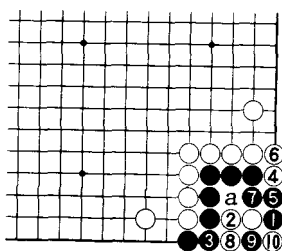


Solution 3

Solution 3. Attaching on the opposite side

Next, we'll look at one of the other possible ways of defending, Black's attachment on the opposite side at Black 1.

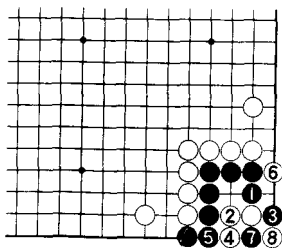
Black answers White's bump at 2 by turning at 3. Next, the order of descending first to White 4 and then playing a hane at 6 is very important. Black then has no choice but to throw in at 7 to create a ko.



Solution 4

Solution 4. hane and connection

After Black 1 and White 2, there is also a variation wherein Black connects with 3 on the bottom. White's hane and connection with 4 and 6 is good form, and after Black 7 and White 8, once again Black is forced to throw in to start a ko. Needless to say, Black's own shortage of liberties prevents him from playing at 'a' to try to capture the white stones.



Solution 5

Solution 5. The third possibility

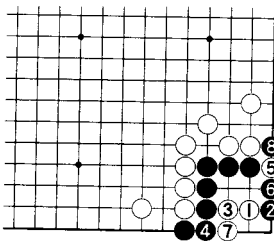
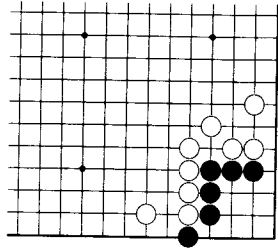
The fact that Black can turn at 1 and still get a ko is due to the workings of the marked black stone. When White plays 2, Black plays a hane at 3. Up to 8 produces a ko, identical to that in Solution 3.

If instead of 1, Black turns in the direction of 2, White 1, Black 6, and White 7 leave him dead.

Pattern 8

White to play and make a ten-thousand year ko

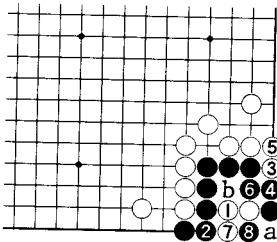
Black has an outside liberty and he also has the hane in place. As you might expect with these changes in the situation, Black has more scope for maneuver. The best White can do if he plays first is to get a ten-thousand-year ko.



Solution

Solution. The direction of the attachment

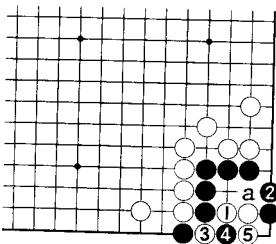
After White 1, the attachment at Black 2 is the only correct response. The idea is to attach on the opposite side from the hane. In answer to White 3, connecting on the bottom with 4 is also important. After 5 and 6, White will block at 7. Now when Black captures at 8, it becomes a ten-thousand-year ko.



Failure

Failure. Caught in a shortage of liberties

Up to Black 4 is the same as in the previous diagram. If White continues by connecting at 5, Black also connects at 6. When White blocks at 7, Black throws in at 8. This doesn't produce a ko. When White captures at 'a', Black plays 'b' and captures all the white stones in a shortage of liberties.

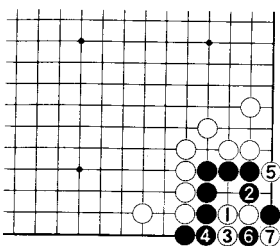


Variation 1

If White plays 7 at 8, Black 7 produces a seki.

Variation 1. Ko

After White 1, pulling back at Black 2 is no good. White's throw-in at 3 is a good move; after Black 4 and White 5, instead of being able to connect, Black must play at 'a', so White can capture to start the ko. If Black connects in response to White 5, White plays at 'a' and makes a five-space big eye.

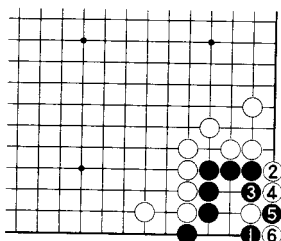


Variation 2. Again, the only move

After the same White 1, if Black turns at 2, White plays 3 and then plays a hane at 5. Black has no choice but to throw in with 6, so the result is a ko.

In other words, connecting at Black 4 is the only response to White's bump at 1.

Variation 2



Variation 3. Attaching on the opposite side

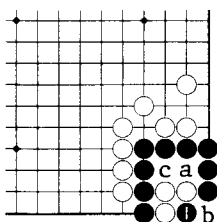
What about attaching on the opposite side here? As we've seen with this shape any number of times already, the result up to White 6 is a direct ko. Obviously, Black should try to lead things into a ten-thousand-year ko, so this way of defending is a mistake.

Variation 3

The ten-thousand-year ko and the outside liberty

Let's take another look at this ten-thousand-year ko which comes up so often when there is an outside liberty.

The diagram here is a simplification of the result from the solution on the previous page. Black can aim to throw in at 1 and, if he wins the ko, play Black 'a', White 'b', Black 'c' to live by capturing the white stones through a shortage of liberties. If we assume for a moment that White takes at b' and Black loses the ko, the ten-thousand-year ko situation remains unchanged. In other words, in this position Black has many opportunities to live by playing this ko.

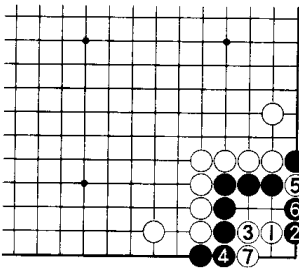
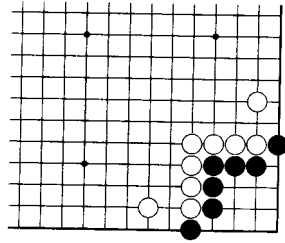


On the other hand, when his outside liberties are filled in Black can no longer play at 'a' and 'c' without being short of liberties himself. In this case Black 1, inviting White to make a five-space big eye, simply starts a direct ko, so it might be considered somewhat suicidal. Consequently, in this case it makes no sense to throw in at 1.

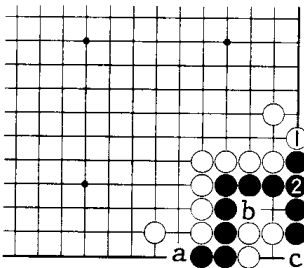
Pattern 9

White to play and make a ten-thousand-year ko

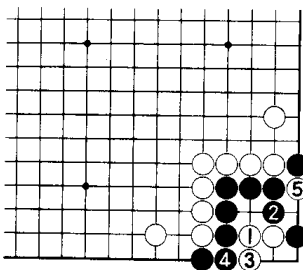
Black's outside liberties have been filled in, but he has a hane on both sides. White's alternatives have been significantly reduced, so as you might expect, the best he can get is a ten-thousand-year ko.



Solution



Reference



Variation

Solution. Bump into the wall

Black answers White 1 by attaching at 2. Since it's a symmetrical shape, it doesn't matter which side he attaches on. The idea for White is to bump into the black wall at White 3 by going in the opposite direction from the black attachment. Black connects on the bottom with 4, and White 5 to 7 produce a ten-thousand-year ko. Simply playing White 5 directly at 7 is almost the same thing.

Reference. Continuation

After the previous diagram, Black has to answer a White play at 1 by connecting at 2, so then White can fill in a liberty at 'a'. If White decides to start a ko instead of settling for a seki, he can get a direct ko by filling in a liberty at b', then throwing in at 'c'. This can be considered a one-step approach-move ko.

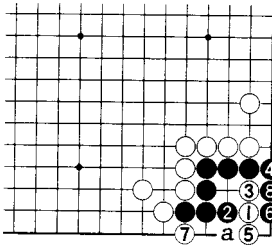
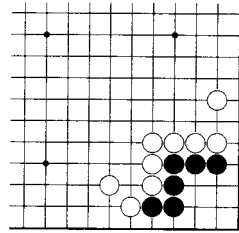
Variation. Ko

Black 2 is a defensive blunder. You can probably see that White 3 to 5 produce a direct ko. If White simply plays 3 at 5, Black will have at 3 and get a seki.

Pattern 10

Black is alive

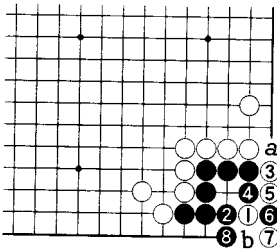
A leg has been added to one side of the carpenter's square. As you would expect, this is a strong shape and, even if it's White's turn to play, it will not die. The best he can get is a seki.



Variation 1

Variation 1. Seki

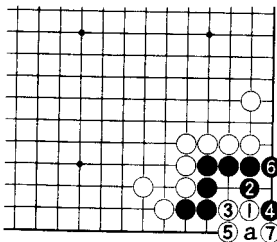
If any play would work, it would have to be the placement at White 1. For Black, running into the white stone from the side where he has the leg is good; White 3 is then answered by the descent to Black 4. If White plays 5 next, Black attaches at the vital point with 6 and the sequence to 8 produces a seki. If White plays 7 at 8, Black plays 'a'.



Variation 2

Variation 2. Care is required

Black needs to be careful about White 3. Living with Black 4 to 8 is calm. If he carelessly plays Black 4 at 5, then after White 4, Black 'a', White 6, and Black's connection, White will make an eye by playing on the 2-1 point at 'b', so Black dies.



Failure

Failure. White has an opportunity

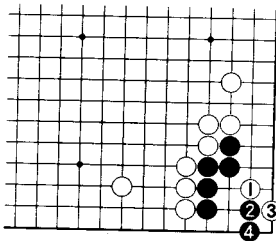
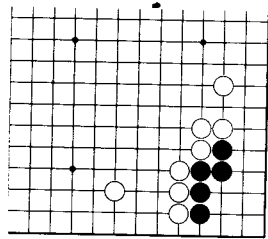
In response to White 1, running into White from the other side at 2 creates bad *aji*. After White 3 and Black 4, White will descend to 5 and Black can no longer live without paying a price. White will answer Black 6 by throwing in at 7. Black takes the ko at 'a' but gets only a kind of two-step ko.

Pattern 11

Black is alive

This is a variation of the carpenter's square. Black has to be somewhat concerned about the openness of his base, but the position is wide enough as it stands, so Black has nothing major to worry about

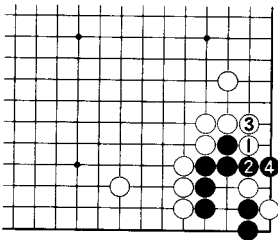
This basic pattern is one which you might see in actual play



Variation 1

Variation 1. The vital paint, but...

Let's look for a way for White to attack. White 1 has the feel of a vital point, but Black will attach at 2 and his position is going to be tough to deal with. White 3 is answered by the descent at Black 4. The continuation is shown in the next diagram.

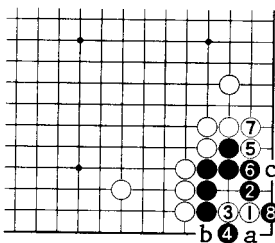


Variation 2

Variation 2. Can't connect

Even if White plays a hane at 1, he can't connect to the outside. When Black plays 2, White has to connect at 3, and when Black descends to 4 he is perfectly alive.

If instead of 1, White simply descends to 3, Black can jump down to 4.



Variation 3

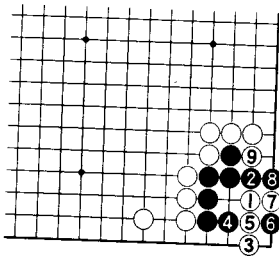
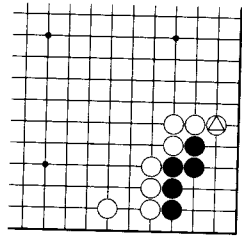
Variation 3. The 2-2 point

What about playing at the vital point of the carpenter's square shape? Black can just make the diagonal attachment at 2 and answer White 3 with a hane at 4. White will probably play the hane and connection of 5 and 7 next, so Black can play 8 and is definitely alive. The continuation of White 'a', Black 'b', White 'c' only gives a seki.

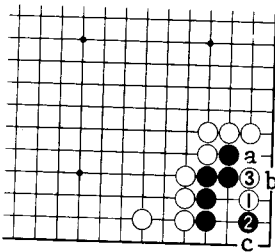
Pattern 12

White to play, Black dies

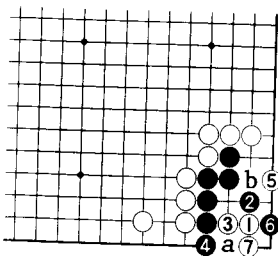
White has descended with the marked stone, so Black really has an open skirt now. Also, he has no outside liberties, so if it's White's turn, there's no room for Black to save his group.



Solution 1



Solution 2



Solution 3

Solution 2. Placement at the vital point

This time the placement at White 1 is certainly the vital point. When Black plays 2, the jump to White 3 is a tesuji. After Black 4 and White 5, Black 6 tries to prevent White from creating a big eye, but White cuts him off at 7; the capturing race is between a group with one eye and a group with no eyes, so Black is captured.

Solution 2 Connecting means death

If Black answers White's placement at 1 by attaching at 2, he won't be able to survive. Once White plays 3 and connects to the outside, it's all over.

Additionally, instead of 2, regardless of whether Black blocks at 'a' or jumps to 'b', White jumps to 'c' and the result is similar to that of the previous diagram.

Solution 3. The 2-2 point

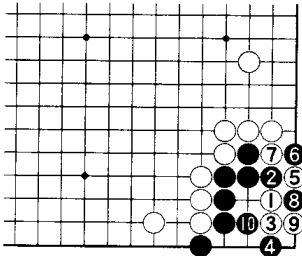
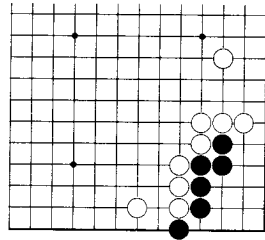
White can also make the placement at 1 and kill Black. Black has no choice but to make the diagonal attachment at 2, then after exchanging 3 for 4, White's slide to 5 is clever. Black 6 is met by White 7, making *miai* out of 'a' and 'b', so Black is dead.

Even if Black plays 4 at 'a', White 7, Black 4, and White 5 give the same result.

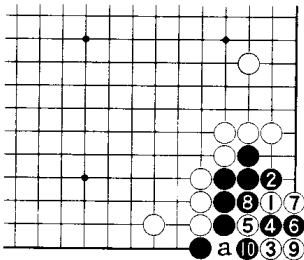
Pattern 13

White to play and make a ko

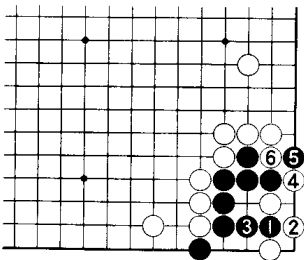
Comparing this to the previous pattern, a single hane has been added to the black shape. The role that this hane is to perform, however, is big; now Black won't die without exacting a price.



Solution 1



Solution 2



Solution 3

Solution 1. A line

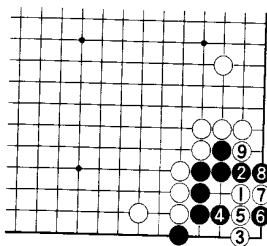
Of course, the vital point is White 1. When Black plays 2, White forms a line with his stones at 3. Black 4 is the best answer, but the sequence from White 5 to 9 produces a ko. If Black connects to save his stone with 10 at 5, White will play at 10 and make a five-space big eye. If Black plays 4 at 5, White descends to 4 and Black dies.

Solution 2. Wedging in

After White 1 and Black 2, White can also jump to 3. The wedge-in of Black 4 is the move that keeps him from dying unconditionally. In answer to White 5, Black pushes up, throws away two stones instead of one, and threatens to capture with 8 and 10. White will capture next at 'a' to start a ko fight

Solution 3. A different ko

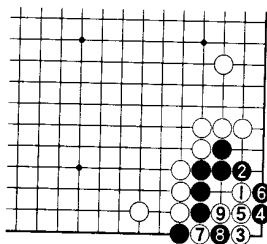
In response to Black's wedging in, White could also defend by playing underneath at 2. When Black connects at 3, White plays a hane at 4 and cuts at 6 to make a ko.



Variation 1

Variation 1. A capturing race

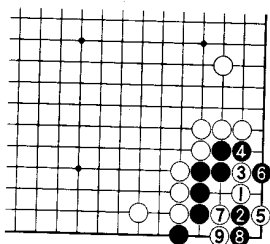
After White 1 and 3, perhaps you were wondering why Black has to wedge in at 4 with 4. It's because, if Black should answer with something like Black 4 here, for example, White connects at 5, producing a dead shape. White cuts off Black 6 at 7 and in the capturing race which follows, the black group is eyeless, so Black dies.



Variation 2

Variation 2. Five-space big eye

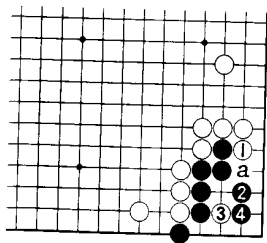
In response to White 1 and 3, let's see what happens if Black plays 4 immediately. White 5 and Black 6 follow. Next, White 7 and 9 are a splendid combination. The five-space big eye is dead.



Variation 3

Variation 3. Black loses the capturing race

After White 1, what about attaching with Black 2? White 3 and 5, however, are an obvious sequence, and when Black plays 6 to prevent White from linking underneath, White takes the corner with 7 and 9. There is just no way that Black can win this capturing race.



Failure

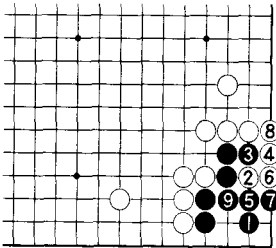
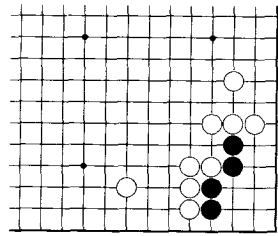
Failure. Turning

In the beginning, if White turns at 1, Black will make the diagonal play at 2. Now even if White attaches at 3, after Black 4 White has no way to continue. Black can also play 2 here at 4 and live. Only if Black blocks at 'a' and White has the chance to play 4 will a ko result from the carpenter's square.

Pattern 14

Black to play and live

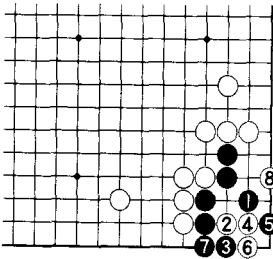
You can consider this shape to be related to the carpenter's square. The black group is wide enough, but is also quite thin. There are an extremely limited number of plays that will allow Black to live.



Solution

Solution. The 2-2 point

Black 1 lands on the vital point of the carpenter's square, the 2-2 point. If you want to live, the first thing you have to do is not miss this point. White can attach at 2, but Black 3 to 7 are sente, and up to 9 Black is perfectly alive.

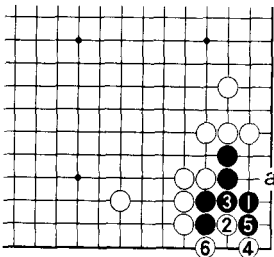


Failure 1

Failure 1. The open connection

What about the open connection at Black 1? If he plays correctly, Black can just barely manage to live, but this is essentially the same as a mistake.

White's attachment at 2 is the vital point. In response, if Black plays a hane at 3, White 4 to 8 follow and Black dies unconditionally.



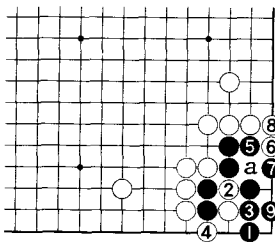
Failure 2

Failure 2. Ko

After Black 1 and White 2, let's try connecting with Black 3. White 4 is a good move, and Black 5 and White 6 produce a ko.

If White plays 4 at 6 to link underneath, Black plays at 4 and lives. Also, if Black descends at 6 instead of 5, White will slide to 'a' and Black dies.

Instead of Black 3 —

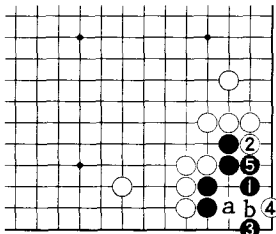


Failure 3

Failure 3. Alive, but...

The jump to Black 1 is a good move. White is forced to cut at 2, so with 3 to 9 Black is able to live, but having allowed two stones to be captured in sente is terrible.

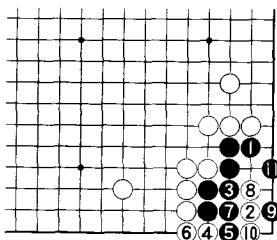
In the middle of this sequence, if Black plays 3 at 4, you can verify that the sequence White 'a', Black 5, White 3, and Black 9 leads to a ko.



Failure 4

Failure 4. Standing fast

After Black 1, if White turns at 2, Black 3 is still the vital point. In answer to White's placement at 4, Black stands firm by connecting at 5. You should confirm that even if White continues by attaching at 'a', Black 'b' is good enough.

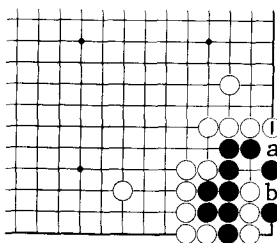


Failure 5

Failure 5. Blocking

Blocking with Black 1 creates a shape with bad *aji*.

The placement at White 2 is the vital point. After Black 3 to White 8 it looks as if Black manages to live with 9 and 11...



Failure 6

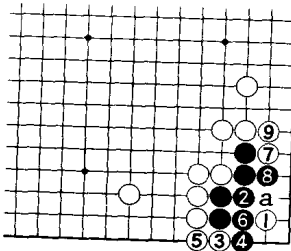
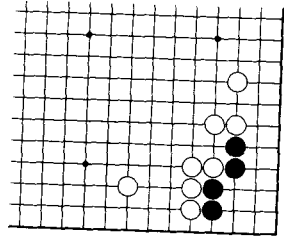
Failure 6. Irony

The descent to White 1 is an ironic play. Black 'a' ends up creating a shortage of liberties for Black, and when White plays 'b', it becomes an eyeless group versus a group with one eye. Also, if Black connects at 'b' instead, White pushes in at 'a' and creates a three-space big eye.

Pattern 15

White to play, Black dies

This pattern is intimately related to the last one, so you probably already understand how White should attack. If you didn't already have that background information, finding the first move may be perplexing.

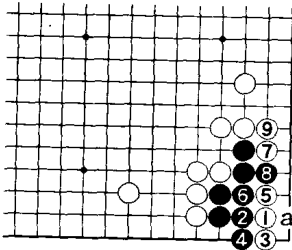


Solution 1

Solution 1. The 2-2 point

The vital point of this shape is at White 1. If Black connects at 2, after White 3 and 5, following up with White 7 and 9 is good enough.

If Black plays 'a' instead of 2, White connects under with 6.

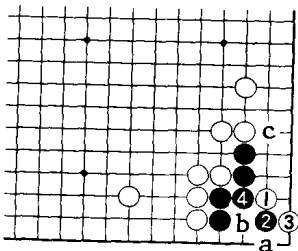


Solution 2

Solution 2. The bump

If Black answers White 1 by bumping into the white stone at Z, the sequence of White 3 and 5 is easy to understand. Next, White 7 and 9 create a three-space big eye.

It's also possible for White to extend at 5 instead of 3; Black 6, White 7, Black 8, White 9, Black 3, and White's 's' would follow



Failure

Failure. Missing the vital point

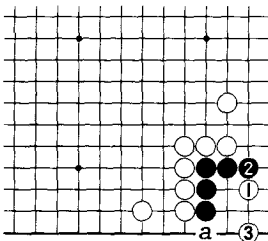
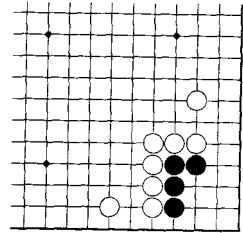
Beginning with the peep of White 1 here misses the vital point. Attaching at Black 2 is tenacious and creates a live shape. When White plays 3, Black answers at 4. Even if White plays start at 'a', White has no way to continue after Black connects at 'b'.

Descending with White 1 at 'c' reverts to the previous pattern and Black lives.

Pattern 16

White to play Black dies

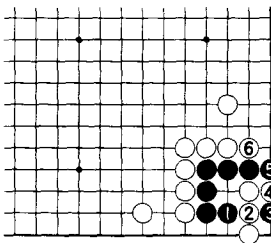
This shape is one move short of the carpenter's square. At this point there should be a move available which will keep the carpenter's square shape from being so resilient. You'll have to come up with a way of taking advantage of Black's shortage of liberties.



Solution 1

Solution 1. The corner

The answer is playing White 1 at the corner of the black shape. Black 2 is forced. At this point, the jump to White 3 is a good move. With it you hold the life of the black group in your hands. After this, Black has to keep White from connecting to the outside at 'a', but...

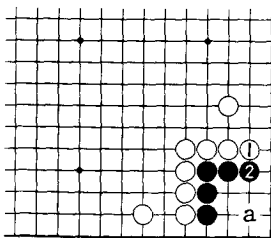


Solution 2

Solution 2. Shortage of liberties

If Black tries 1, White connects at 2. With 3, Black is trying to somehow or other to get a seki, but White plans to start a capturing race by cutting Black off at 4. Black 5 is met by White 6, filling in a liberty, and it is obvious that White is going to win the capturing race.

Black's shortage of liberties proves to be fatal



Failure

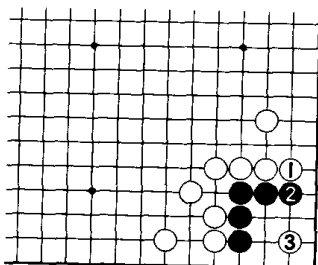
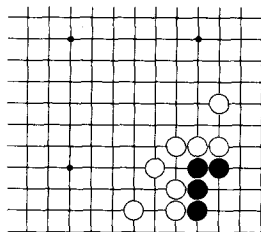
Failure. No ideas

The descent to White 1 is really unimaginative. Black blocks at 2 producing what is obviously the carpenter's square. At this point White can do no better than play 'a' to get a ko.

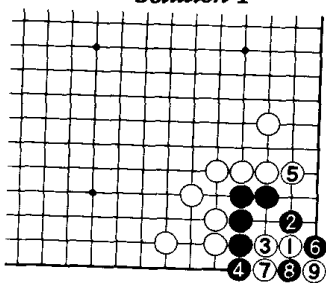
Pattern 17

White to play and make a ko

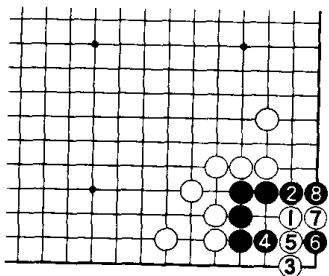
Black's shape is the same as in the previous pattern, but take note of the fact that he now has an outside liberty. The question is whether White's technique from that pattern will work here or not.



Solution 1



Solution 2



Failure

Solution 1. Descend

This time the descent to White 1 is the normal way of proceeding. If Black blocks at 2, White makes the placement at 3, producing the carpenter's square with one open liberty. We discussed how to make a ko in this position previously.

Note that even if Black defends by playing Black 2 at 3, he won't die without exacting a price.

Solution 2 Making the placement first

Making the placement at White 1 immediately is also effective. After Black 2 through 6, the block at White 7 is an important point Black has no choice but to throw in with 8 and force a ko. It; midway through, Black plays 4 at 7, White 8, Black 4, and White 5 kill him.

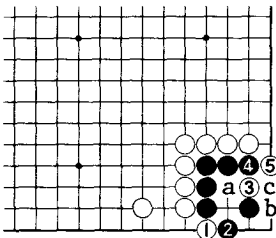
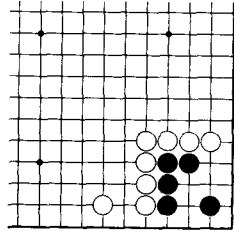
Failure. The outside liberty

Playing White 1 at the corner then jumping to 3 was the solution of the last pattern. In this case, however, after proceeding to Black 6 and 8, White loses the capturing race because of the outside liberty.

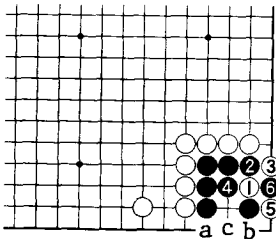
Pattern 18

White to play, Black dies

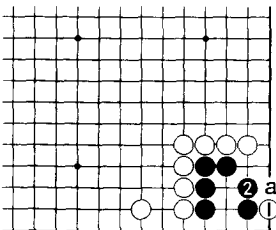
Black's position is open at the bottom, but in exchange he has made a defensive move at the 2-2 point. With the defensive move at the vital point in place, it doesn't look as if Black is going to die, but White has a neat way of attacking that leaves Black unconditionally dead.



Solution



Failure 1



Failure 2

Solution. Begin with hane

White's hane at 1 is a good move. After Black 2, White attaches at 3, and after Black 4 and White 5, a shortage of liberties prevents Black from playing at 'a'. You should be able to see the meaning behind White's starting with the hane at 1. After Black 'b', White connects at 'c' and Black is dead.

Failure 1. Ko

Beginning by attaching at White 1 is overeager. Black can play atari with 2 and 4, so White has no choice but to start a ko with 5. Even if White now plays 5 at 'a', it's too late; Black still gets a ko after Black 6, White 'b', and Black 'c'.

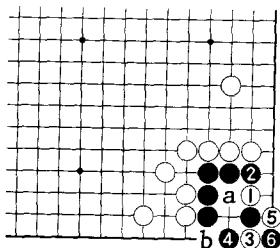
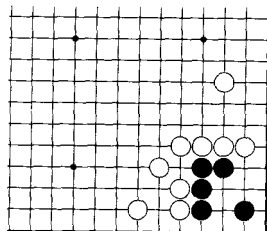
Failure 2. No follow-up

It looks as if White might be able to start with the attachment at 1, but when Black calmly pulls back with 2, it's all over. If Black carelessly plays 2 at 'a', White cuts at 2 and Black dies.

Pattern 19

White to play and make a ko

In the back of his position, Black has an outside liberty. Because of this, the technique of the previous pattern won't work, so White will have to look for a different way to play. The position looks impregnable, but White does have a possibility.

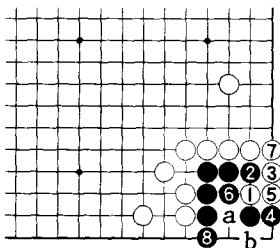


Solution

Solution. A hidden move

The attachment at White 1 will occur to you almost immediately, but after Black 2, you have to be able to find the attachment at White 3 as well, or it comes to naught White answers Black 4 by starting a ko with 5.

There is also a *ko* which starts with Black playing 4 at 'a', White b', and Black 4.

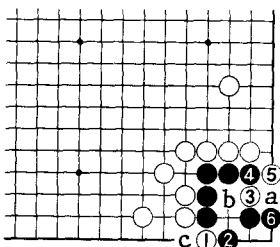


Failure 1

Failure 1. Linking underneath?

After White 1 and Black 2, connecting underneath with 3 is an undistinguished play. The descent to Black 4 is a good answer, up to 8 Black manages to live. If Black plays 4 at 6, White will hane at 4 and make a ko.

Also, if White plays 3 at 4, Black will descend to 3; White 'a' and Black 'b' then follow and the white stones inside will be captured.



Failure 2

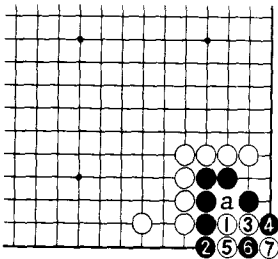
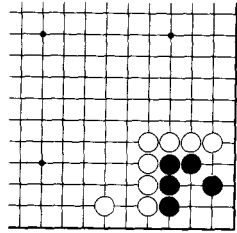
Failure 2. No meaning

Beginning with the hane at White 1 doesn't have much meaning. After White 3 and 5, descending to Black 6 is steady. Even if White connects at 'a', Black can play atari at 'b' and then capture at 'c' to live.

Pattern 20

White to play and make a ko

This black shape looks as if it should be even more resilient than the carpenter's square, but Black is still not guaranteed life. White can aim at something with his first move.

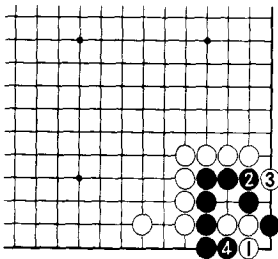


Solution

Solution. Belly attachment

White's attachment at 1 hits at the vital point for eye shape. Descending to 2 is Black's best answer. After White 3 and Black 4, blocking here with White 5 is also important. Black 6 and White 7 produce a ko.

If Black uses 6 to atari at 'a', White plays 6 and has a four-space big eye.

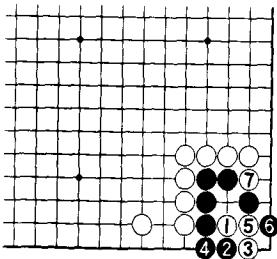


Failure

Failure. Seki

Turning at 1 here instead of White 5 in the previous diagram is no good. After exchanging Black 2 for White 3, Black fills in at 4 and gets a seki.

If Black simply plays 2 at 4, White will push in at 2 and Black dies.



Variation

Variation. Suicide

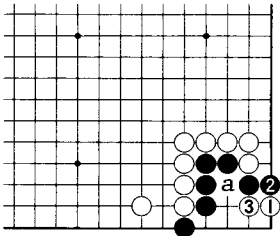
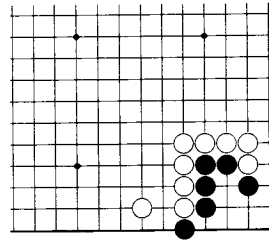
In response to White 1, playing a hane at Black 2 is a poor move. White plays 3 and 5 and, after Black 6, White 7 kills the group. Also, even if Black plays 6 at 7, White descends to 6 and kills him.

In addition to these possibilities, Black 2 at 3 is met by a white placement at 6 and Black still dies.

Pattern 21

White to play, Black dies

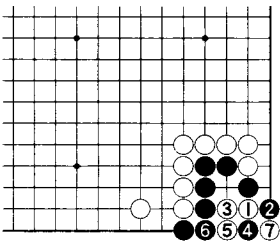
It looks as if White should be able to do just about anything and kill the black group, but a ko is not enough. The key is to eliminate Black's ability to resist. Everything is decided by the first play.



Solution

Solution. Placement

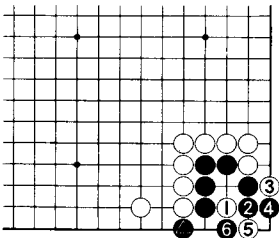
The placement at White 1 is the move which prevents Black from putting up any resistance. Black has to cut off the white stone at 2, so White pushes up with 3. No matter what he does, his eye shape is going to be wrecked, so it should be easy to see that White will get a big eye.



Failure 1

Failure 1. Resistance

Knowing that the clamp of White 1 is often a tesuji may lead you to play it here. Black, however, will hane at 2 and White won't be able to eliminate Black's resistance. When White plays 3, the sequence of Black 4 and 6 creates a ko. Black 2 is the vital point after all.



Failure 2

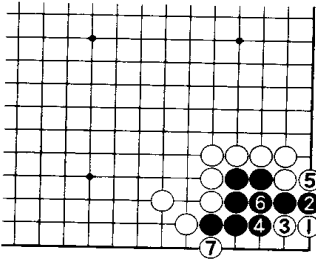
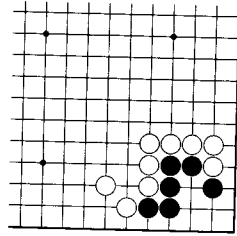
Failure 2. This too is a ko

A white attachment at 1 is met by Black 2. After White 3 to 5, the throw-in at Black 6 also gives a ko. The marked black stone is working well in this position.

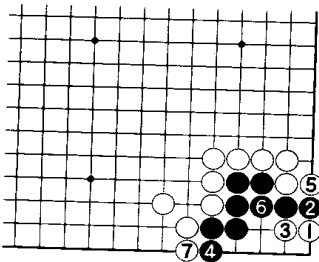
Pattern 22

White to play, Black dies

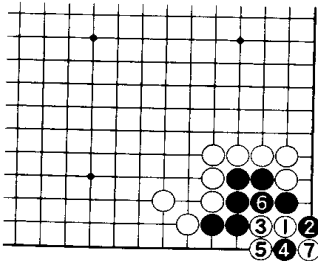
Since the previous pattern provides you with a hint to this one, I won't waste a lot of words. Simply put, Black's shortage of liberties is the important point to keep in mind.



Solution 1



Solution 2



Failure

Solution 1. The same technique

As you would expect the placement at White 1 is the way to eliminate Black's ability to resist. After Black 2 and White 3, even if Black blocks at 4, he's not going to be able to get an eye at 6. After the hane at White 7 Black is dead.

In the beginning, playing Black 2 at 3 lets White connect underneath at 2, so of course Black is dead.

Solution 2. Shortage of liberties

After White 1 to 3, descending to 4 could be considered Black's most effective way of resisting. White, however, will block at 5 and 7, and due to his shortage of liberties Black has no room to maneuver.

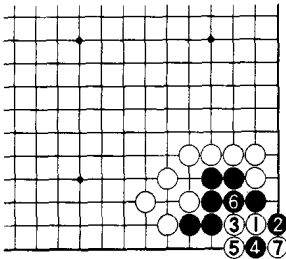
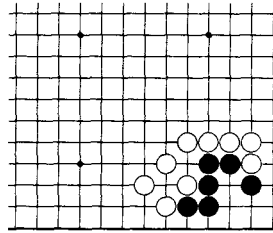
Failure. The clamp

The clamp at White 1 is vulgar. After Black 2 and White 3, Black can produce a ko with 4. For Black this play at 4 is very important, since if he connects at 6 instead, White will turn at 4 and kill him.

Pattern 23

White to play and make a ko

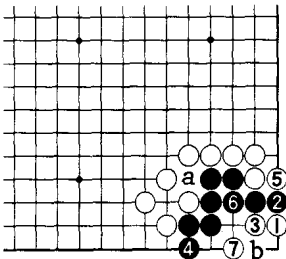
Black has an outside liberty. Because of this, Black is not going to give up without a fight. If White makes a ko, he is successful, so he isn't limited to a single option for his first move.



Solution 1

Solution 1. Still a ko

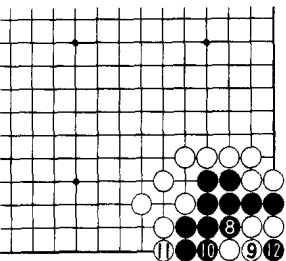
Even though Black has an outside liberty, the fact that White's clamp at 1 produces a ko doesn't change. The sequence from Black 2 to White 7 has appeared previously



Solution 2

Solution 2. The placement

The question is whether or not the placement at White 1 will kill the group. After Black 2 and White 3, the descent at Black 4 is the best answer. After White 5 and Black 6, if White fills in at 'a', Black lives at 'b', so White makes the diagonal play at 7, trying to make a big eye. The continuation is...



Solution 3

Solution 3. In the aftermath

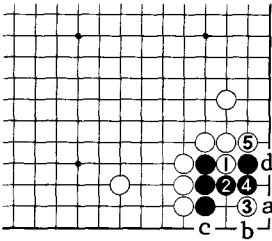
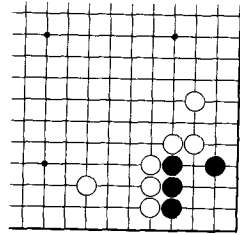
Black captures the four white stones with 8 to 12. In the aftermath, White can attach at 9 and when Black defends by playing above 9, the end result is a ko.

If Black had more outside liberties, he'd be able to crush the invading white stones out of existence.

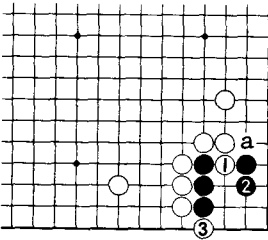
Pattern 24

White to play, Black dies

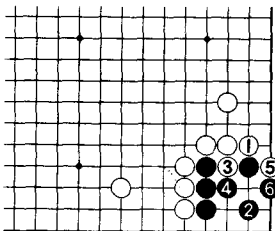
This shape, which can lead to the carpenter's square, can be troublesome. Before Black can finish the shape White should aim to attack Black's weak point and kill him outright. You should be able to solve this easily.



Solution 1



Solution 2



Failure

Solution 1. Pushing In

White pushes in at 1 and if Black blocks at 2, the vital point of White 3 comes to the fore. Black connects quietly at 4 and White 5 produces a dead shape. After this, if Black plays 'a', White descends to b', malting *miai* of 'c' and 'd'.

Solution 2 Dead shape

Answering White 1 by pulling back at 2 is a confusing way to play, but there is no way that the black group can live. White can simply hane at 3 or block at 'a', so Black is dead.

Failure. Easygoing

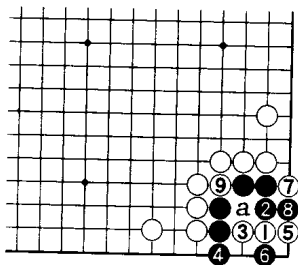
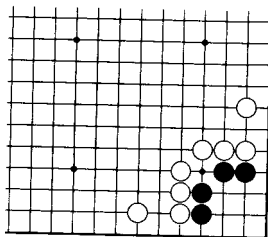
Blocking at White 1 is too easygoing. Black defends at the vital point and, in answer to the White atari at 5, has the chance to resist by malting a ko at Black 6.

Also, even if Black simply connects with 2 at 3, he makes the carpenter's square, so there's no way to kill the group outright. If White plays 1 at 2, Black's connection at 3 is troublesome.

Pattern 25

White to play, Black dies

The joint of this carpenter's square hasn't been solidified. This is a major weak point in the black shape, so if it's White's turn to play, he can kill the group unconditionally.

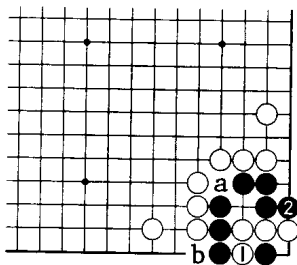


Solution 1

Solution 1. Three-space big eye

Of course, the vital point is the placement at White 1. If Black 2, White plays the bump at 3 and descends to 5. Black attaches at 6 in hopes of getting a seki, but White fills in the turner with 7 and 9; when Black is forced to fill at 'a', it becomes a three-space big eye.

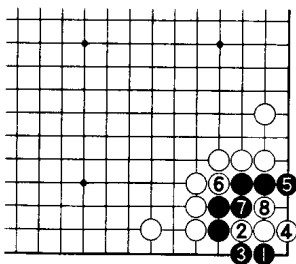
Furthermore, instead of White 7...



Failure

Failure. White is captured

If White blocks at 1, Black can play 2, aiming to live by capturing the four white stones. In this case, the fact that Black doesn't have a stone at 'a' becomes an unexpected asset rather than a liability. If Black had a stone at 'a', White could fill in at 'b' and Black would lose the capturing race.



Solution 2

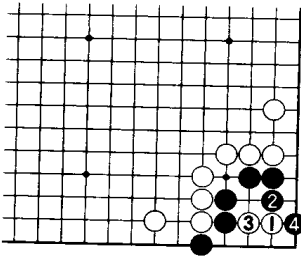
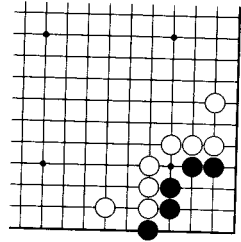
Solution 2. Attaching underneath

In response to the white placement, attaching underneath with Black 1 is not necessarily a good move. With 2 and 4, White eliminates Black's ability to resist. After Black 5, White 6 turns out to be the vital point for reducing Black's liberties, as expected. After Black 7, White 8 creates a five-space big eye.

Pattern 26

White to play and make a ko

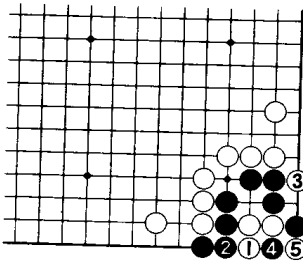
A hane has been added to the black group, so the ordinary method will no longer work. White's first move is forced, so it's more a question of Black's response.



Solution 1

Solution 1. Direction of defense

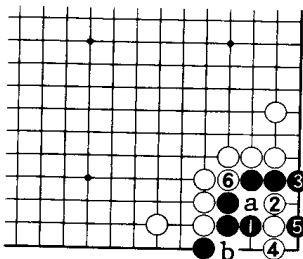
The placement at 1 is White's only move. In response, it's very important for Black to turn at 2. In other words, Black needs to turn from the side opposite the hane. In answer to White 3, Black plays a hane at 4 and will be able to put up a fight. The sequence continues in the next diagram.



Solution 2

Solution 2. An ordinary ko position

After turning at 1, White plays a hane at 3. Next, Black throws in at 4 to make a ko. White can also simply hane with 1 at 3. In that case, Black 4, White 1, and Black 2 produce a ko as well.



Variation

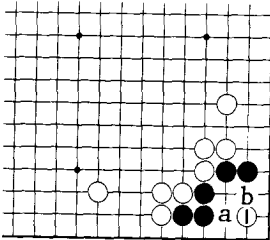
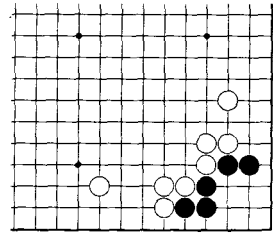
Variation. The opposite direction

Turning from the side of the hane is doubtful. When White plays 2, Black has to play 3 to keep him from connecting to the outside, so White descends to 4 and there's no hope. White answers Black 5 by filling in the critical liberty at 6 and meets Black 'a' with 'b'.

Pattern 27

White to play and make a ko

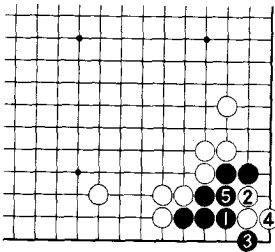
This shape comes up often in actual play. Black's position is one space wider than the carpenter's square, but the junction of the black shape is its weak point, so White has room to maneuver



Solution 1

Solution 1. Two possibilities

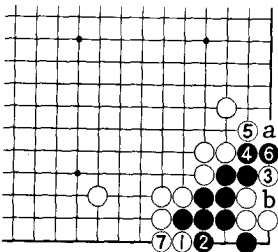
The placement at 1 is unquestionably the vital point. In response, Black can defend at 'a' or 'b', but the results are similar. First let's look at Black 'a'.



Solution 2

Solution 2. Preventing the cut

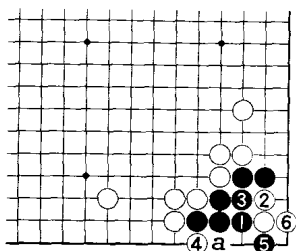
If Black plays 1, White answers at 2. At this point, Black could connect at 5, but the hane at Black 3 also keeps White from cutting at 5 for the present. Once White turns at 4, however, Black has no choice but to connect. The continuation is shown in the following diagram.



Solution 3

Solution 3. One-step ko

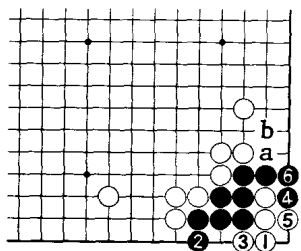
White first plays a hane at 1, then, after Black 2, makes a ko shape at 3. After the sequence to 7, Black can consider playing elsewhere. White has to fill in one more liberty at 'a' before he can force a direct ko at 'b', so this position is a one-step approach-move ko for White.



Solution 4

Solution 4. Same result

After Black 1 and White 2, connecting at Black 3 isn't much of an improvement. White plays a hane at 4 and answers Black 5 at 6. When next Black blocks at 'a', you can see that it reverts to the previous diagram.

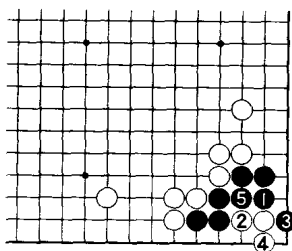


Failure

Failure. White loses

In this position, White could think about descending with 1, but Black 2 is a good answer. White 3 is met by Black 4; White can't win the capturing race which follows the black connection at 6.

Black must not turn with 4 at 'a'. The exchange of Black 'a' for White 'b' fills in one of Black's own liberties.

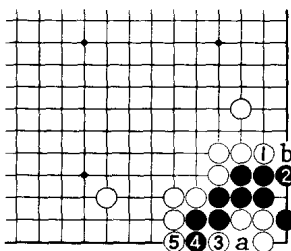


Solution 5

Solution 5. The opposite side

Now let's look at Black 1, bumping into the white stone from the opposite side. After White 2, this time Black must play a hane at 3. Playing 3 at 5, letting White descend to 3, is doubtful.

After White 4, Black connects at 5. The continuation is...



Solution 6

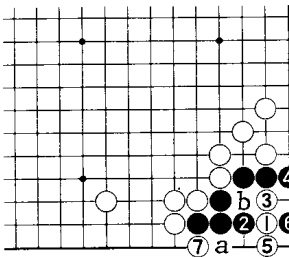
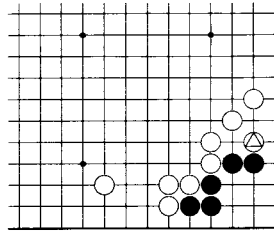
Solution 6. The same idea

After White blocks at 1, he makes a ko shape with 3. When White plays 5, ordinarily Black will take the ko at 'a', but it's not a direct ko. In this position, Black can play elsewhere, letting White fill in at b' before to make it a direct ko, so it's very similar to the one-step approach-move ko in Solution 3.

Pattern 28

White to play, Black dies

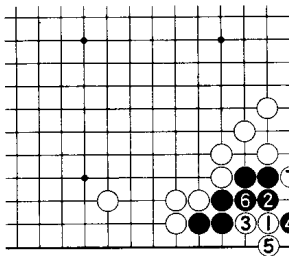
This is similar to the previous pattern except that White now has the marked stone in place, so Black's position has worsened. In this case, White needn't settle for a ko: he can kill the black group.



Solution 1

Solution 2. Three-space big eye

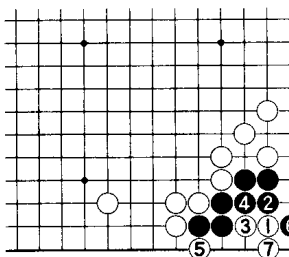
After White 1 and Black 2, White can aim to connect underneath with 3. After Black 4, White will descend to 5 and answer Black 6 by attaching at 7. Now, if Black plays 'a', White has the cut at 'b'. If Black connects at 'b', White will crawl at 'a', killing black with a dead three-space big eye.



Solution 2

Solution 2. After the hane, Black is dead

Lets see what happens if Black turns from the opposite side. Black can answer White 3 at 4, but after White 5 and Black 6, White can hane at 7, so Black is dead.



Solution 3

Solution 3. Dead again

After White 1 to 3, if Black simply connects at 4, White can play a hane at 5. Black 6 is then met by the turn to White 7.

Even if White should descend with 5 to 6, there's no way for Black to live.

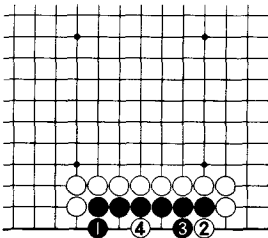
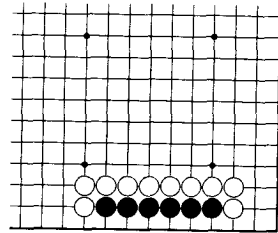
Part Six

Second-Line Shapes on the Side

Pattern 1

Black is dead

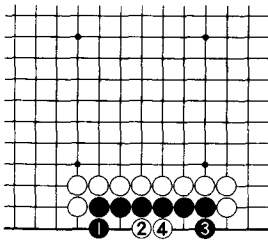
Black has six stones lined up on the second line. When White has blocking stones in place on both sides, Black cannot live even if it's his turn. You should remember this as a piece of basic information about the side of the board.



Variation 1

Variation 1. Descent

If he's going to try and live, Black must descend at either 1 or 2. When Black plays 1, White answers with a hane at 2. Blocking at 3 gives Black only a three-space eye, so White plays in the middle and kills him.

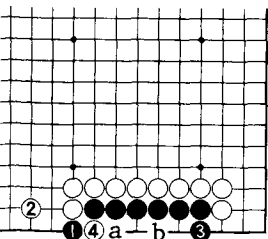


Variation 2

Variation 2 Playing inside

After Black 1, it's also possible for White to play inside at 2 directly. Even if Black descends to 3, Black is dead after 4.

In response to Black 1, there are, in fact, two options for White, but the previous diagram is considered to be the basic killing technique.



Variation 3

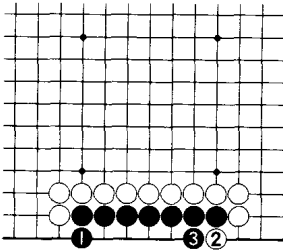
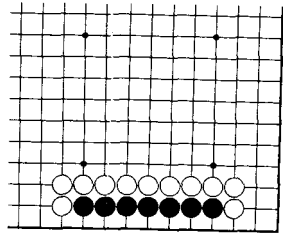
Variation 3. Hane makes no difference

Even in a situation where the black hane at 1 is a threat, defending with White 2 is adequate. When Black plays 3, White will throw in at 4, then if Black 'a', White 'b' gives the same dead shape. In other words, Black's hane doesn't help him to live.

Pattern 2

Black to play and live

Now Black has seven stones lined up. This time, if it's Black's turn to play, he can live; if it's White's turn to play, Black dies. Let's verify both cases.

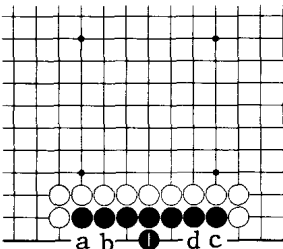


Solution 1

Solution 2. Descent

Black can simply descend to 1. In response to White 2, Black can block at 3, acquiring a four-space eye shape which is alive.

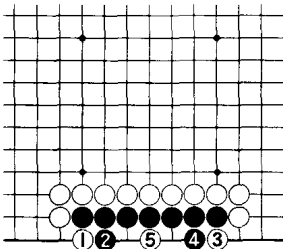
In actual play, the decision of whether to descend at 1 or 2 will be based on the surrounding situation.



Solution 2

Solution 2. A territorial loss

Black could also play in the middle and live by partitioning his shape. With White 'a', Black 'b', White 'c' and Black 'd', he just makes life. Comparing this to the way he lived in the previous diagram, however, you will notice that he has suffered a one-point loss of territory.



Reference

Reference. Hane

If it's White's turn, how should he kill Black?

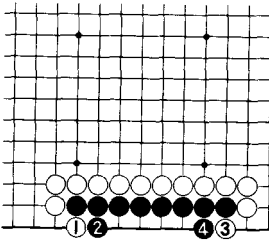
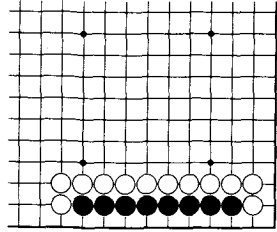
Of course, playing a hane at 1 is good enough. After this hane it becomes the same as attacking the black group with six stones. White continues after Black 2 with the hane at 3 and then, after Black 4, plays inside at 5.

Pattern 3

Black is alive

The black group has grown to eight stones. In this case, Black can even play elsewhere once and live.

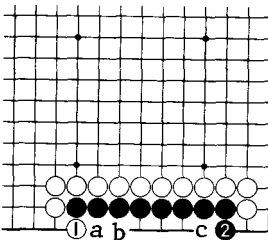
'Six die, eight live' goes the proverb, but you probably already knew what it meant.



Variation 1

Variation 1. Barely alive

Black can simply answer White 1 at 2 and White 3 by blocking again at 4. Black makes exactly a four-space eye and is just alive.

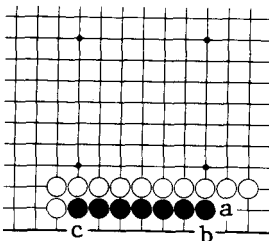


Variation 2

Variation 2. A way of living

After White 1, Black doesn't necessarily have to block at 'a'. Black can also live by descending to 2. If White 'a', Black 'b'.

Following the same logic, in the cases when White hanes first at 2, instead of blocking at 'c', Black can descend to 1.



Reference

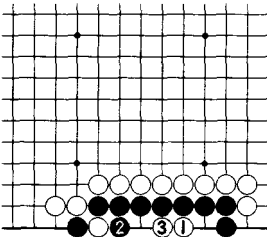
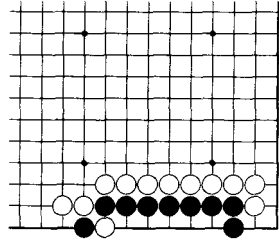
Reference. The possibility of playing elsewhere

Black has only seven stones, but White hasn't blocked at 'a', so as it stands, Black can play elsewhere once and still live.

Pattern 4

White to play, Black dies

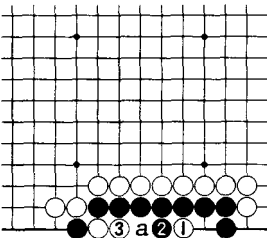
The situation is getting more and more complicated, so you'll have to rely on your reading ability. Where should White make the first move? If you're not careful, Black will end up living.



Solution 1

Solution 1. From the inside

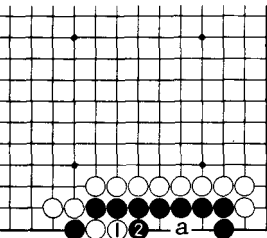
White has to begin inside at 1. This is the vital point for Black to try and make two eyes. When Black plays 2, White will extend at 3.



Solution 2

Solution 2. Entering in

In answer to White 1, if Black blocks at 2, White enters at 3. Even if Black captures two stones at 'a', it should be obvious that White will throw in one space to the left of White 3, so Black dies.



Failure

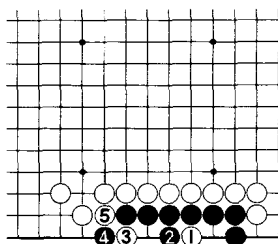
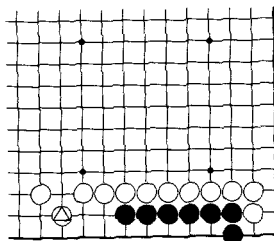
Failure. A trap

White 1 also aims at reducing Black's eye-space, and this seems to be more faithful to the fundamentals of killing, but in this shape it's a trap. That is, Black will capture the two stones with Black 2 and, after White throws in, play 'a' and live.

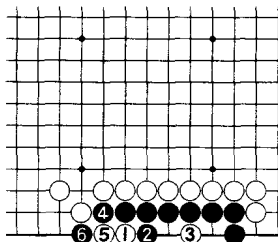
Pattern 5

White to play, Black dies

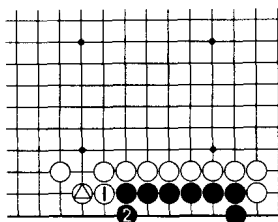
The marked white stone has an important role to perform. Note that there are two ways to go about killing the black group. Also, of the two, you need to understand which is the standard procedure.



Solution 1



Solution 2



Failure

Solution 1. Playing inside

First is the method beginning with the placement inside at White 1. After Black 2, White attaches at 3. Answering Black 4 with White 5 keeps things simple.

The alternative method is shown in the next diagram, but this diagram is the easier to understand and what we'd like to consider the standard technique.

Solution 2. Throwing in

Now let's begin with the attachment at White 1. When Black blocks at 2, White plays inside at 3 and answers 4 by trailing along at 5, sacrificing two stones instead of one. After Black captures at 6, White throws back in at 7. Black is also dead this way, but having to play the moves from 4 on is a bit of a nuisance.

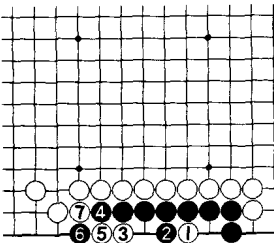
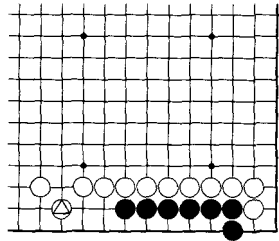
Failure. A Foolish Play

As a first move, this White 1 has to be considered foolish. It completely fails to utilize the marked white stone and Black is allowed to live with the descent to 2.

Pattern 6

White to play, Black dies

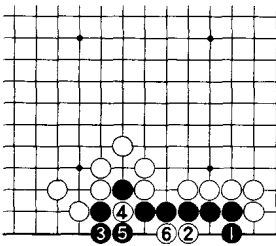
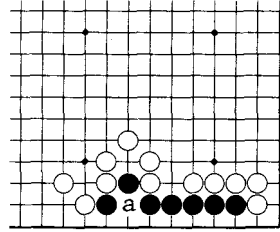
If White just makes an ordinary blocking move, Black will be able to live. In this problem as well, the marked white stone is going to have to make its presence felt. The first and third moves make up a nice combination.



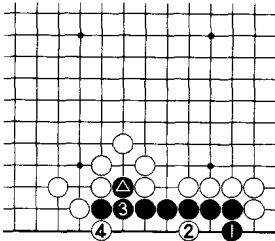
Pattern 7

Black is dead

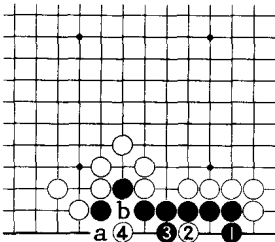
If Black has seven stones lined up and it's his turn, he's alive. However, this can't be considered seven stones since there is a gap at 'a'. Black can't quite live in this position.



Variation 1



Variation 2



Variation 3

Variation 1. Descent

If you're trying to live, the descent to Black 1 seems as if it would be the way to go. In response, White plays 2 at the vital point for making eye shape. Now, if Black descends at 3, White throws in at 4. Up to 6, Black is dead.

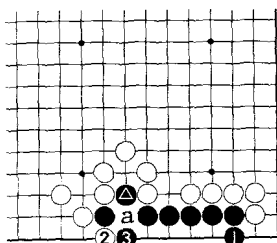
If White simply plays 4 at 6, Black will connect at 4 and live.

Variation 2. A useless stone

After Black 1 and White 2, if Black connects at 3 White simply plays the hane at 4. This black connection at 3 is a move which totally ignores the presence of the marked black stone.

Variation 3. Placement

In response to White 2, what about blocking at Black 3? This time the placement at White 4 becomes a good move. If Black continues at 'a', you can probably see that White will push up at 'b', creating a false eye.

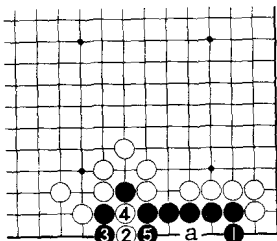


Failure 1

Failure 1. Ko

When Black plays 1, White 2 is thoughtless. If Black were to connect at 'a', White would crawl in to 3 and kill the black group, but when Black plays 3, he gets a ko.

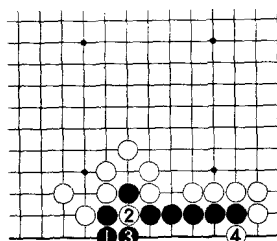
From another viewpoint, you could say that the White hane at 2 allows the marked black stone to do some work



Failure 2

Failure 2. Beginning with the placement

After Black 1, White 2 is also undoubtedly a vital point, but it's the wrong order. Even if White answers Black 3 by pushing up and creating a false eye with a throw-in at 4, after 5, Black is still left with a play at 'a'.

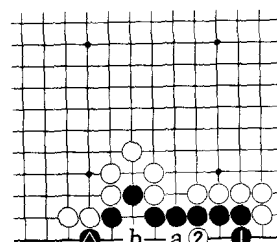


Variation 4

Variation 4. Throw-in

Going back to the beginning, this time Black descends with 1 here.

In this position, White 2 becomes the play which reduces Black's eye space. After Black 3, the hane at White 4 kills the group. White can also play 2 at 4.



Reference

Reference. Adding a hane

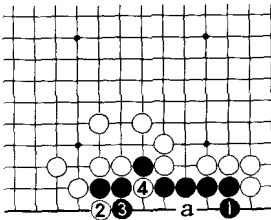
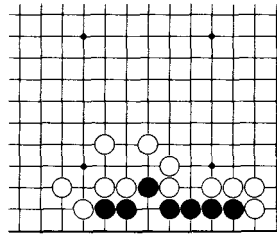
A hane at the marked black stone has been added, but even so Black cannot live. If he descends at 1, White still attaches at 2. Black 'a' is then answered by the placement at White 'b'.

If Black tries stepping down with 1 at 'b', a white hane at 1 still kills him.

Pattern 8

Black is dead

Black has a bulge in the middle of his position. As far as helping to make eye shape is concerned, this is usually a minus, so even if it's Black's turn to play, he cannot live.

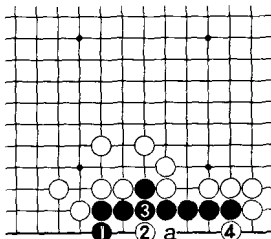


Variation 1

Variation 1. The killing hane

Lets take a look at Black 1, an attempt to expand Black's base.

White will hane at 2 and when Black plays 3, the throw-in at 4 kills the group. White must be careful not to play 2 inside at 'a', since Black will descend at 2 and live.

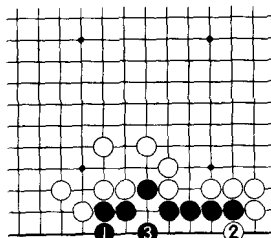


Variation 2

Variation 2. Placement

If Black descends to 1 here, White 2 becomes the point to ruin Black's eye shape. After Black 3, White's hane at 4 ends things.

Should Black play 3 at 'a', White can push in at 3, which you might say is Black's weak point



Failure

Failure. Thoughtless

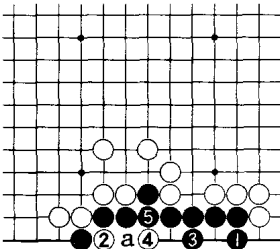
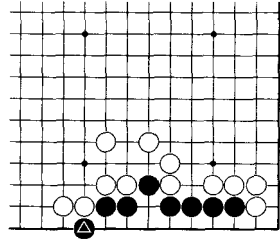
In answer to Black 1, a white hane at 2 is thoughtless. Black plays 3 and survives.

Do you reduce from the outside, and then play in, or do you play directly at the vital point for making eye shape? Usually you need to consider both options before playing.

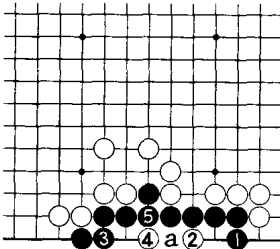
Pattern 9

Black to play and live

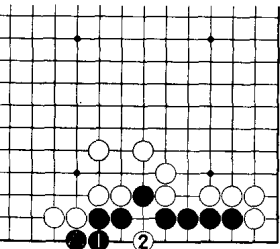
The only difference between this and the previous pattern is the addition of the marked black hane. This is enough, however, to allow him to live. There really is a fine line between life and death.



Solution 1



Solution 2



Failure

Solution 1. The role of the hane

Black will descend to 1 and, in response to White's throw-in at 2, making an eye at 3 instead of capturing is a nice move. White's placement at 4 is then met by connecting at 5. The black hane prevents White from connecting at 'a'.

If Black captures with 3 at 'a', White 5 will kill him.

Solution 2. Seki

If White attaches inside at the vital point of 2, Black connects at 3. Then, in answer to White 4, Black connects again at 5. When White connects at 'a', it becomes a seki.

Failure. Ignoring the hane

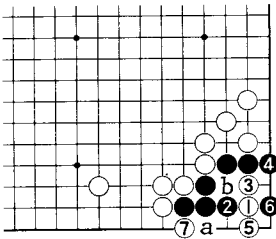
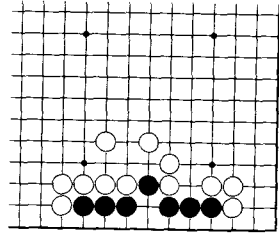
In the beginning, if Black connects on the edge at 1, he doesn't make use of the marked black stone at all. White plays 2 at the vital point for eye shape and Black dies.

By forcing White to be the one who plays at 1, the marked black stone comes to life.

Pattern 10

Black to play and live

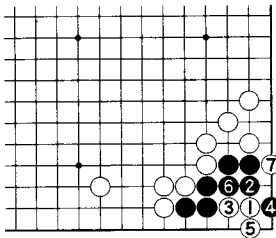
The bulge in the black position has moved to the center of the shape. The situation has changed now, so if it's Black's turn to play he can live. If Black finds the right vital point, he can make two eyes.



Solution 1

Solution. The play is in the middle

Stepping down to Black 1 is the answer. Even though 'a' is a false eye, that's no obstacle in this position. Black 1 makes good use of the proverb 'play in the middle of a symmetrical position!'

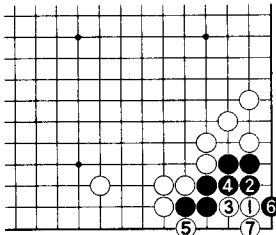


Solution 2

Failure 1. Thick-skinned

The descent to Black 1 can only be called insensitive. In answer to White 2, Black is forced to block at 3, bringing the vital point at White 4 to light. After White 6, Black is dead.

If White plays 2 directly at 4, Black lives after Black 5, White 6, and Black 2.



Solution 3

Failure 2

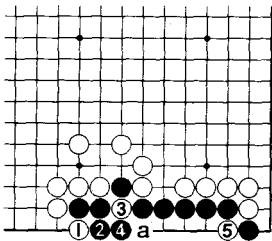
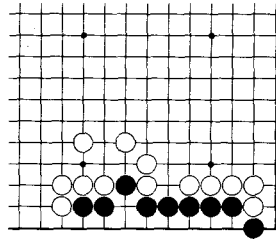
Failure 2. Resourceless

The connection at Black 1 is an extremely dull-witted play. Since this produces the seven-stones-in-a-line shape and it's White's turn to play, Black is dead. Needless to say, White simply plays a hane at 2.

Pattern 11

White to play, Black dies

The position has become somewhat complicated. It looks as if Black has eight stones lined up, but there is a defect present; if White attacks it, Black dies unconditionally. White does, however, need to be careful about the black hane on the right side.

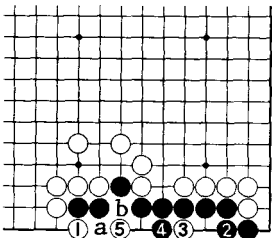


Solution 1

Solution 1. Begin with a hane

Beginning with the hane at White 1 is the only way to play. When Black plays 2, White has the throw-in at 3 to narrow Black's eye space. White continues at 5.

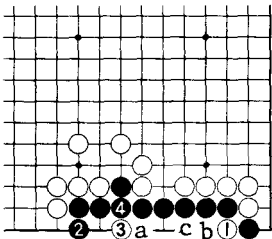
White can also play 3 directly at 5 and if Black answers at 3, a white play at 'a' kills the group.



Solution 2

Solution 2. Be careful

If Black answers White 1 by connecting along the bottom at 2, you must be careful about the moves which follow. Attaching at 3 is important. When Black plays 4, White 5 ends it. If White carelessly plays 5 at 'a', atari, Black won't connect at 'b'. Instead he will block at 5. Even if White now captures two stones, Black can recapture and live.



Failure

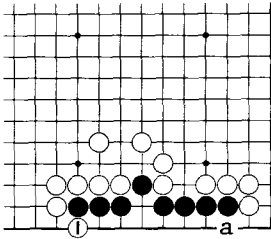
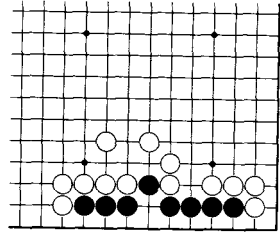
Failure. Wrong order

Starting with the throw-in at White 1 is the wrong order. After Black descends to 2, White has to make the placement at 3, so Black expands his eye space. After Black 4, White 'a' is met by Black 'b', and a white play at 'b' would be met by Black 'c', so either way Black is alive.

Pattern 12

White to play, Black dies

There is a defect in the middle of this Black shape as well, but deciding how White should attack is going to be difficult. Should he play a hane on the right, a hane on the left, or, possibly make a placement in the middle?

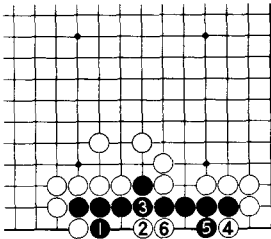


Solution 1

Solution 1. Hane on the left

The hane on the left side is the only move. The two hanes look very similar so why is the one the right side no good? That's a very delicate point.

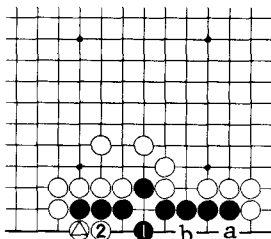
First, let's briefly investigate the variations after White 1.



Solution 2

Solution 2. Placement

If Black answers White's hane by blocking at 1, the placement at White 2 becomes the vital point. Black is forced to connect at 3, then White plays 4 and 6, making a big eye.

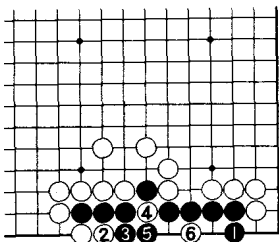


Solution 3

Solution 3. The vital point, but...

If Black grabs an eye with 1, White will push in at 2. Even if Black descends to 'a', he's dead after White b'.

There is no doubt that Black 1 is the vital point for making eye shape, but the marked white hane played previously has, in this case, made this play powerless.

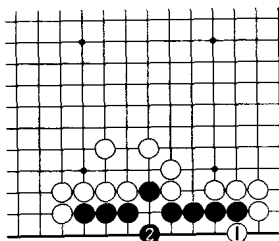


Solution 4

Solution 4. Crawling in

What if Black tries to expand his eye-space by answering the white hane with Black 1 here? White crawls at 2, reducing the position from the outside. After Black 3, White is able to combine 2 with a throw-in at 4.

If White simply plays 2 at 6, Black will block at 2 and live.

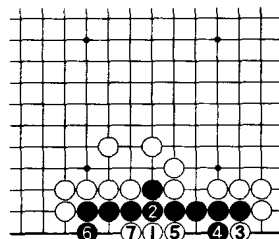


Failure 1

Failure 2. From the right

If White plays a hane on the right side, he gives Black a nice move at 2.

Black 2 has been the vital point for making eye shape all along it depends on White's hane whether the potential of 2 is made use of or stifled.

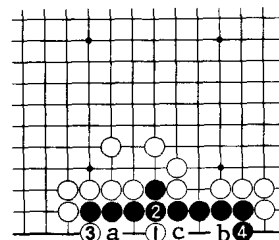


Failure 2

Failure 2 Beginning with the placement

This time we'll try attacking from the inside with White 1.

When Black plays 2, White plays a hane at 3, but then Black 4 and 6 force White 5 and 7; the result is a seki.



Failure 3

Failure 3. It won't die

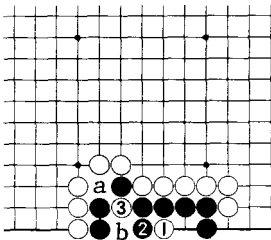
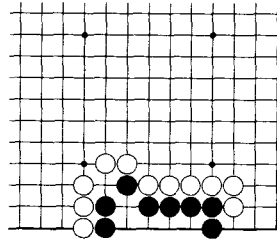
After White 1 and Black 2, even if White tries playing a hane on the left side, Black descends to 4 and lives.

If Black were kind enough to block at 'a' instead of at 4, then White 4, Black 'b', and White 'c' would kill the group, but...

Pattern 13

White to play, Black dies

Normally, White would play atari on the outside against the black stone, but Black is alive after he connects. White wants to create a false eye by making use of Black's shortage of liberties.

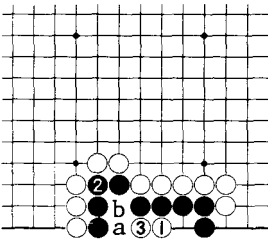


Solution 1

Solution 1. False eye

Playing inside at 1 is a nice move. When Black plays 2, the white throw-in at 3 makes a false eye out of the left side. Because of his shortage of liberties Black can't play at 'a', and if he captures at 'b', White plays at 'a'.

The point here is to play White 3 at the right tune.

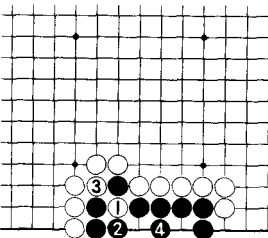


Solution 2

Solution 2. Shortage of liberties

If Black connects at the joint with 2, White crawls to 3. Because of his shortage of liberties, Black can't block at 'a'.

White could also play 3 at 'a', atari, then answer Black 'b' with White 3.



Failure

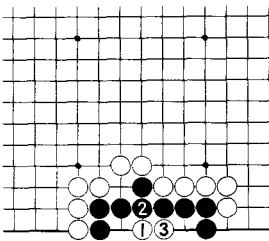
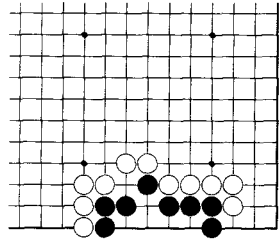
Failure. Ko

Throwing in at the beginning with White 1 is the wrong order. This is because when White plays 3, Black will make an eye with 4 and fight a ko.

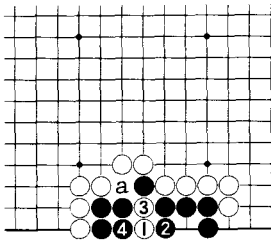
Pattern 14

White to play, Black dies

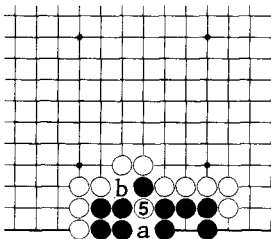
Here, as well, playing atari from the outside is obviously a mistake. That leaves nothing else but to attack on the inside, but it's important not to quit halfway through. As you would expect, White has to take aim at Black's shortage of liberties.



Solution 1



Solution 2



Solution 3

Solution 1. Straightforward

If you're looking for the vital point inside, the placement at White 1 has to be it. If Black connects with 2, White kills him easily by crawling to 3.

Black 2 is a little bit too straightforward a defense. Even if you're going to die, you should put up the strongest resistance you can.

Solution 2. Thrust upwards

Black 2 is the strongest defense against White 1. At this point, thrusting up with White 3 is a sharp response. Black can't connect at 'a' due to a shortage of liberties, so he'll capture at 4 and next...

Solution 3. A sequence to remember

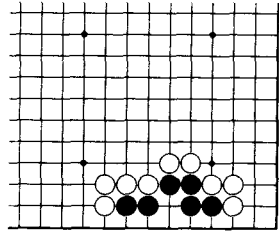
White throws in at 5 and answers Black 'a' at 'b'.

I'd like you to remember this sequence, beginning with White 3 of the last diagrams and ending here, for creating a false eye.

Pattern 15

Black to play and live

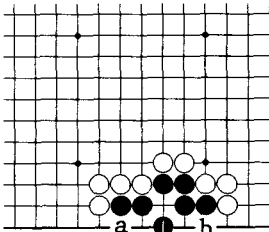
A portion of the black group has risen up to the third line. There is now an abundance of eye potential in that area, so even though it doesn't look like the sides of the shape are long enough, if it's Black's turn to play, he can just make life.



Solution. The vital point

Black 1 is the vital point. After this, 'a' and 'b' are miai, so it's easy for Black to live. Even if your position isn't very wide, expanding it might not make living any easier. The key is to look for the vital point for making eye shape.

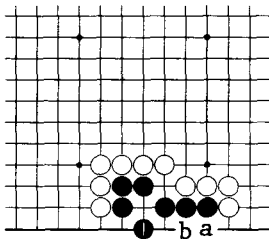
If Black plays 1 at 'a', White 1 kills him.



Solution

Reference 1. Exactly enough

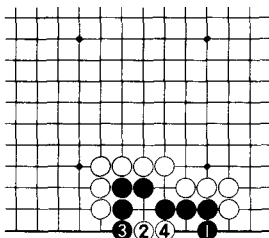
We've changed the position slightly here. As you would expect, Black has to make eye shape with 1. Black answers White 'a' at 'b' and has exactly two eyes.



Reference 1

Reference 2. Missing the vital point

Black 1 expands the group's eye space, but White 2 controls the vital point, so Black can no longer live. Black 3 is answered by crawling to White 4.



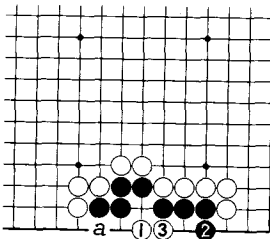
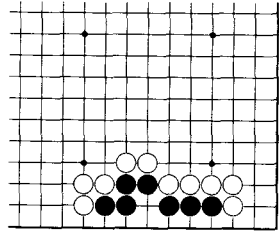
Reference 2

Pattern 16

White to play, Black dies

You probably already know how Black should go about living. How should White, if it's his turn, go about killing the group?

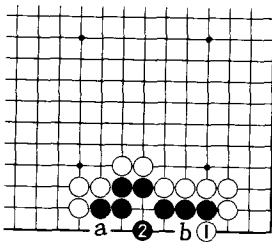
According to the proverb, 'the vital point for defense is the vital point for attack,' so this isn't a very difficult shape either.



Solution

Solution. Placement

It goes without saying that the placement at White 1 is the vital point of this position. When Black plays 2, White crawls to 3. After this you should verify for yourself that even if Black descends at 'a', it's not a seki: Black is dead.

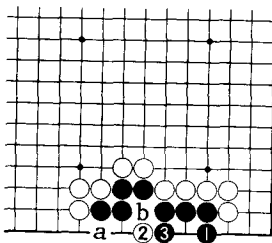


Failure

Failure. Hane

If White plays a hane at 1, he gives Black the opportunity to play at the vital point with 2. Since 'a' and 'b' are miai, Black is alive.

Also, playing a hane on the other side with White 1 at 'a' gives the same result after Black 2.



Reference

Reference. If it's Black's turn...

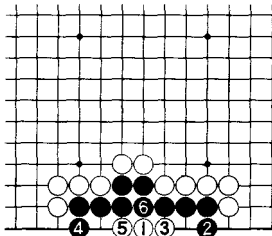
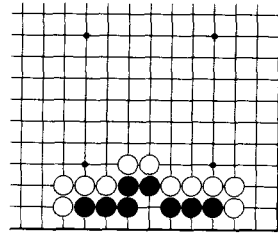
If it's his turn, Black can even descend at 1 and live. White 2 is met by Black 3, then if White continues at 'a', looking like he's going to connect to the outside, Black connects at 'b' and the white stone is captured.

If White plays 2 at 'a', it's important for Black to make eye shape by playing 2.

Pattern 17

Black is alive

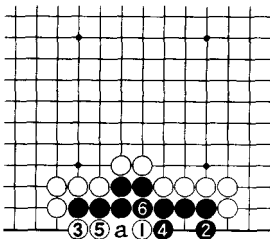
The question here is whether or not Black can play elsewhere. If only because the vital point is so conspicuous, it's a worrisome shape, but you should still read it out diligently



Variation 1

Variation 1. Even the placement

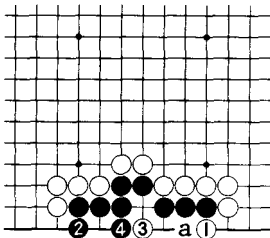
The real question is whether or not Black is safe even if White makes a placement at the vital point Descending to Black 2 or 4 is adequate. At any rate, Black descends on both sides and, after White 5, connects at 6 to make a seki. Black cannot omit 6.



Variation 2

Variation 2. White can't connect outside

After White 1 and Black 2, answering White 3 by blocking at 4 and securing an eye is important Black can't answer White 5 by playing in at 'a', but when Black connects at 6, the lone white stone is captured.



Variation

Variation 3. If White plays hane

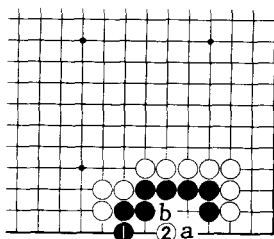
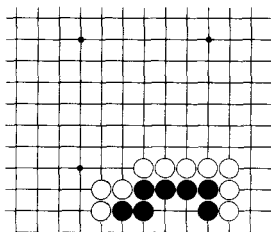
If White begins with the hane at 1, Black could just make eye shape by playing at 3, but descending at 2 also lets him live. As before, White 3 is answered by blocking at 4.

Be careful not to block with Black 2 at 'a', since the placement at White 3 kills the group.

Pattern 18

Black is dead

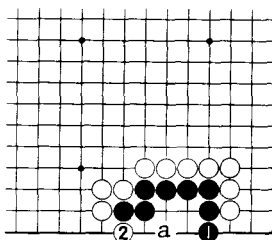
The number of the black stones on the third line have increased. When this happens, the life and death of a group usually takes on a bit of complexity. This position, however, is still simple. Black's position is too narrow, so, even if it's his turn, he cannot live.



Variation 1

Variation 1. Descent

First we'll take a look at the black descent to 1. White 2 hits at the vital point for making eye shape. If Black continues at 'a', after White 'b' he can make only one eye.



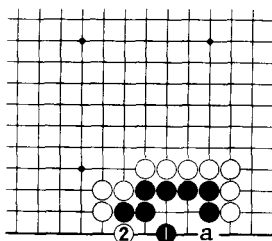
Variation 2

Variation 2. Follows basic principles

This time we'll try descending with Black 1 on the right side.

This is dead after the white hane at 2. It's also dead if White makes the placement at 'a', but killing with the hane is more in accordance with the fundamentals of go.

If White should play 2 elsewhere, Black can live by playing at 'a'.



Variation 3

Variation 3. The vital point, but...

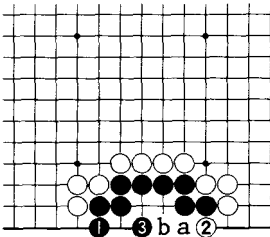
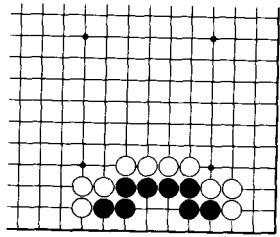
Black 1 looks like the vital point in this position, but White plays a hane at 2 and there's no room to make two eyes on the right side.

If White should carelessly play 2 at 'a', however Black plays 2 and lives.

Pattern 19

Black to play and live

This pattern is wider than the last one, so Black is a lot better off. There is more than one way to live. If anything, in this position it's much more likely that if White tries to kill the group, he'll make a mistake.

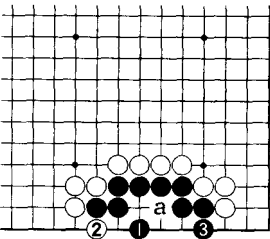


Solution 1

Solution 1. Expand the position

With the descent to 1, Black expands his area and lives easily. In response to White's hane at 2, Black must make eye shape at 3. If he plays 3 at 'a', a white placement there kills him.

If White plays 2 at 3, Black makes the diagonal attachment at 'b' and lives.

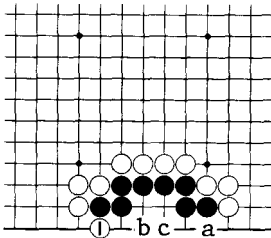


Solution 2

Solution 2. Diagonal play

Black can also make the diagonal play at Black 1 here. When White plays 2, Black descends to 3 and he has the live bent-four shape.

Black could also play 3 at 'a' and live, but compared with 3, this is a territorial loss.



Reference

Reference. If it's White's turn

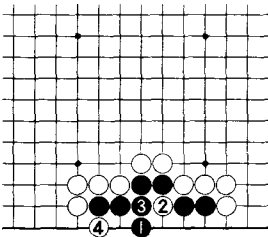
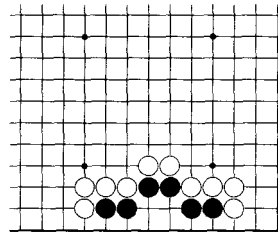
If it's White's turn, the hane at 1 is correct. Obviously, White 'a' is the same, producing a mirror image of the situation in the last pattern.

If White gets confused and makes the placement at 'b' instead, Black will make the diagonal attachment at 'c' and live.

Pattern 20

Black is dead

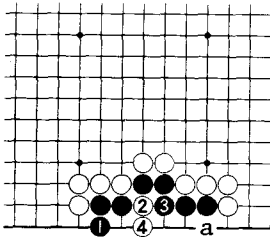
All of Black's outside liberties on the second or third line have been filled in. Because of this, even if it's his turn, living is difficult. Black has two or three fairly powerful ways of playing, but none secures life.



Variation 1

Variation 1. Atari

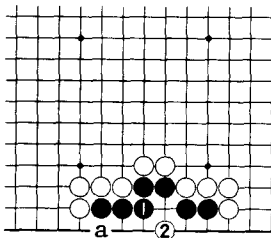
First is the open connection at Black 1. In response, White will cut at 2, putting two stones in atari. Since Black is forced to connect, White gets to continue with the hane at 4, so Black is dead.



Variation 2

Variation 2. Descent

It's a symmetrical shape, so you can make sure of only one side. If the open connection is unsuccessful, you can try the descent to Black 1, but White cuts at 2 and descends with 4, so Black can't make two eyes. You can verify for yourself that White could also play 2 at 'a' and kill the black group.



Variation 3

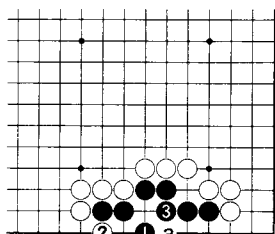
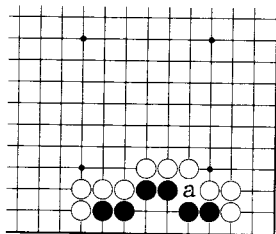
Variation 3. The tight connection

There is also the tight connection at Black 1, but the vital point at White 2 is easy to see. If White should play 2 at 'a', Black plays at 2 and just make two eyes.

Pattern 21

Black to play and live

Note that in comparison with the last pattern, this time Black has a liberty at 'a'. If you don't thoroughly understand this difference, finding the move which lets Black live will probably be difficult.

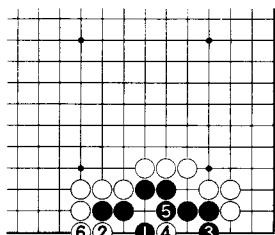


Solution

Solution. Open connection an the left

Making the open connection on the left side at Black 1 is correct Why is 'a' not good? The difference between them will be made clear late

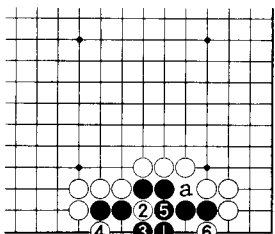
Black answers White's hane at 2 by making eye shape at 3. Even if White should attach with 2 at 3, Black can simply descend to 2.



Failure 1

Failure 1. Greedy

Black 1 is correct, but if Black answers White 2 at 3, trying to live in as large a manner as possible, he ends up in big trouble. Attaching at 4 becomes the vital point, and when Black plays 5, White connects at 6, so Black dies.

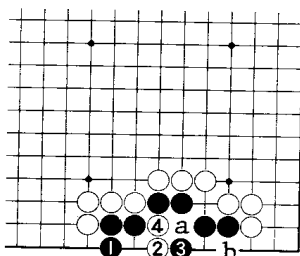


Failure 2

Failure 2. Open connection an the right

Let's see what happens if Black makes the hanging connection here on this side. If he does, the cut at White 2 is a nice move. When Black plays 3, White can play 4 in sente and, after Black captures at 5, follow up at 6.

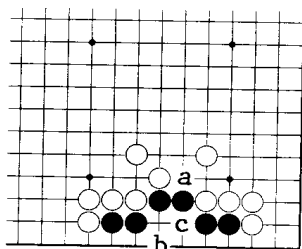
Now you should understand the meaning behind the liberty at 'a'.



Failure 3

Failure 3. Descent

If Black descends to 1, White 2 is the vital point, as you would expect Black's diagonal attachment is met with the cut at White 4. Since Black has no choice now but to defend at 'a', White can play 'b' and Black is dead.

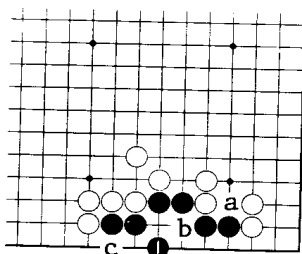


Reference 1

Reference 1. Open liberty on top

We've set up two or three different situations to look at

Black has a liberty on the top of his position at 'a', but this won't help him. It should be *easy* to verify that Black cannot live, even if it's his turn to play. For example, if Black plays 'b', White

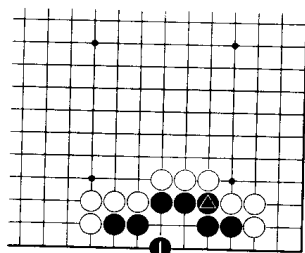


Reference 2

Reference 2. Alive

This time not only is there a liberty on top but one at 'a' as well.

This becomes the same situation as in the original pattern of this section and the open connection at Black 1 gives him life. This is because there's no need for Black to defend against a white cut at 'b', so he can respond at 'c' instead.



Reference 3

Reference 3. Here as well

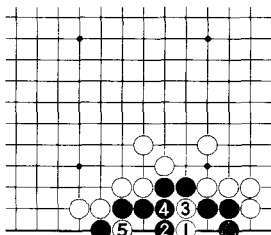
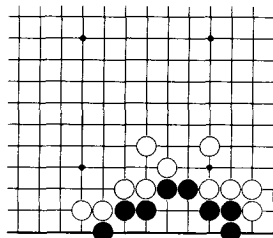
If Black has connected with the marked black stone, his group is even more clearly alive. The same open connection at Black 1 lets it live.

You should also confirm for yourself that apart from this Black 1, nothing will work

Pattern 22

White to play, Black dies

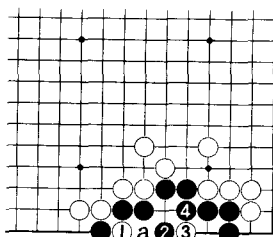
The black group has been strengthened by a descent on the right side and a hane on the left, but this still isn't a living group. If it's White's turn, Black dies. White, however, must not miss the vital point with his first move.



Solution

Solution. Placement on the right

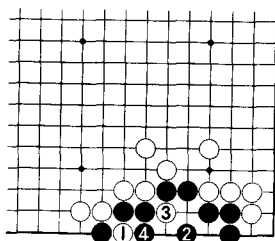
White makes the placement at 1. The presence of the descent with the marked black stone makes this the vital point of the position. If Black makes the diagonal attachment at 2, White will cut at 3. Black has to defend at 4, so White gets to play in at 5 as well.



Failure 1

Failure 1. Throw-in

What about a white throw-in at 1? If Black were to capture at 'a', then a placement at 3 would kill the group, but instead he will make the open connection at 2. Now even if White attaches at 3, Black is alive with 4.



Failure 2

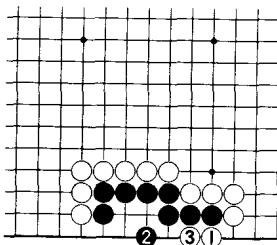
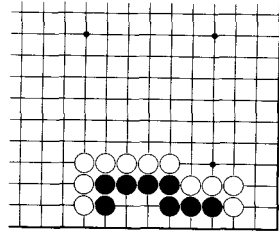
Failure 2. Alive here too

In answer to White 1, the somewhat strange play of a hanging connection on the right at Black 2 also makes the group alive. Even if White cuts at 3, Black captures at 4 and White has no continuation.

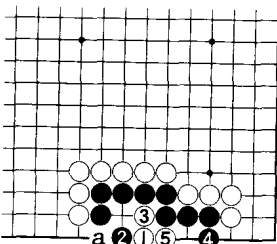
Pattern 23

White to play, Black dies

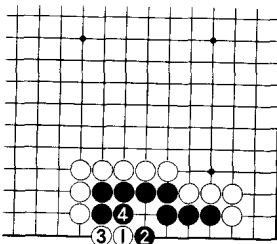
The base of the skirt of the black group has been extended on one side. In this case as well, the question is whether to look inside for the vital point, or attack from the left or right sides. You can probably come up with a number of possibilities.



Solution



Failure 1



Failure 2

Solution. From the skirt side

Playing a hane on the right side at 1 is good. Playing a hane on the side of the skirt is one of the main ideas in this type of position.

Black 2 is the vital point for eye shape, but White 3 destroys one eye. If Black blocks with 2 at 3, White answers at 2. Either way Black can't get two eyes.

Failure 1. Placement

White 1 is plainly the vital point; Black 2 is met with White 3 and, when Black plays 4, White is forced to play 5, producing a seki.

For Black, the diagonal attachment at 2 is a very important play. If he instead descends to 'a', a white hane at 4 kills him.

Failure 2. Wide of the mark

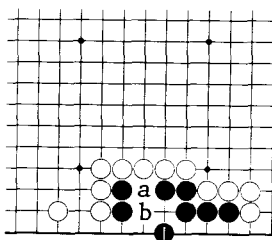
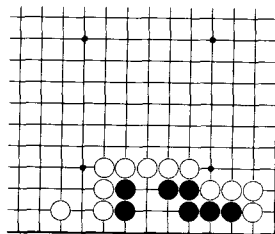
The placement at White 1 misses the vital point. The diagonal attachment at 2 gives him *easy* life.

Should White play 1 at 3, the diagonal play of Black 2 gives him life here as well.

Pattern 24

Black to play and live

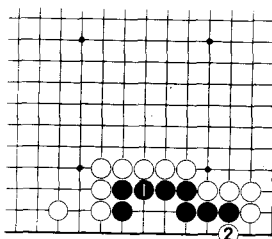
Can Black live by securing the space he has? If not, then he needs to locate the vital point for making eye shape inside his position. Of course, the previous pattern provides a major hint



Solution

Solution. Diagonal play

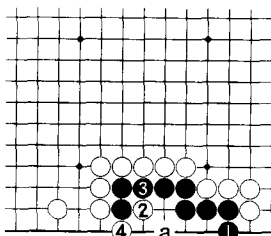
Black makes the diagonal play at 1. If you then assume White 'a' and Black 'b', it becomes dear why this is the vital point. After 1, it looks as if White could play at 'b', but when Black connects at 'a', White can't connect underneath.



Failure 1

Failure 1. Connection

Black 1 is one possibility for securing the area he has, but we saw in the previous pattern that there is no way for him to live. White plays a hane at 2 and Black is dead.



Failure 2

Failure 2. Connecting under

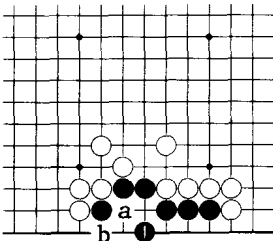
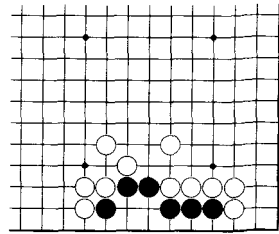
Black 1 is also aimed at securing enough eye space, but this leaves behind White 2, so Black is easily killed.

The diagonal play of the solution, securing an eye on the right side and at the same time preventing White from connecting underneath at 4, does double duty.

Pattern 25

Black to play and live

Black must somehow connect the lone stone hanging out on the left side to the rest of the position. There are a number of ways to make this connection.

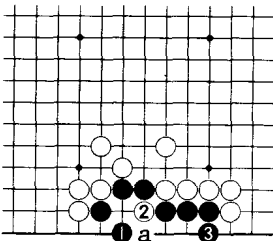


Solution 1

Solution 1. On the right

The open connection of Black 1 on the right side is a technique you should remember. This is the vital point for making eye shape for the entire position.

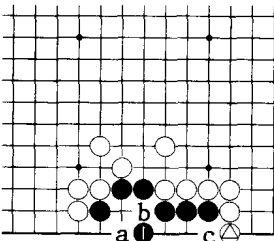
Black can answer a white cut at 'a' by descending to 'b', and the atari at 'b' by connecting at 'a'.



Solution 2

Solution 2. Open connection on the left

The open connection on the left with Black 1 is a commonsense way of connecting and also allows Black to live. When White cuts at 2, however, you have to be careful not to make a mistake defending. If Black descends to 3, he's alive, but if he should carelessly play at 'a', White can play a hane at 3 and kill him.



Reference

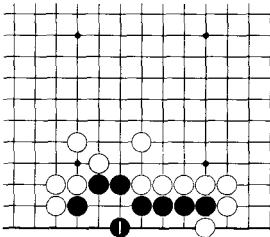
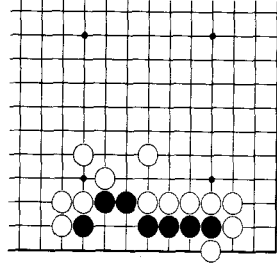
Reference. Descending

The descent at the marked white stone has been added. In this position Black 1 is the only answer. This is because if Black makes the open connection at 'a', when White cuts at 'b', Black can't play the block at 'c'.

Pattern 26

Black to play and live

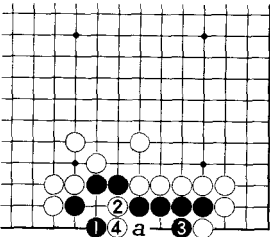
Comparing this to the previous pattern, Black has one more stone on the second line, but in exchange White has the hane in place. You might think that it would be the same if these were removed, but a subtle difference has been introduced.



Solution

Solution. The only move

In this position Black must make the hanging connection on the right side. With this move, Black is alive in exactly the same manner as the previous pattern.

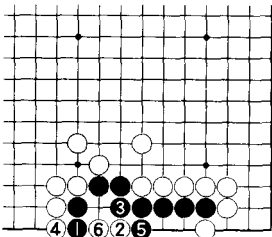


Failure 1

Failure 1. Shortage of liberties

Why doesn't the hanging connection on the left side work?

It's because after White cuts at 2, blocking at 3 creates a shortage of liberties for Black. This prevents Black from answering a white descent to 4 at 'a'. Take a good look at the difference between this and the previous pattern.



Failure 2

Failure 2. Descending

While we are at it, let's also take a quick look at the black descent to 1.

The placement at White 2 is the vital point. After he plays here there's just no way to make two eyes.

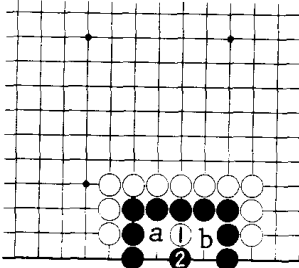
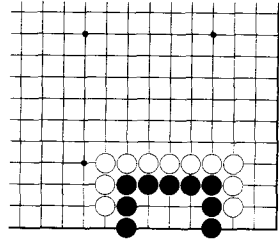
Part Seven

Third-Line Shapes on the Side

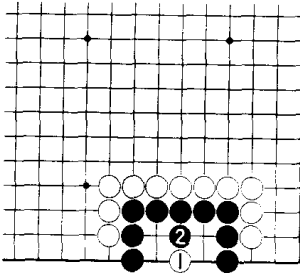
Pattern 1

Black is alive

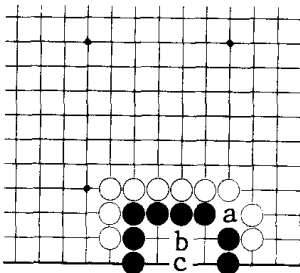
This is the perfect six-spore eye shape. The territory inside resembles a rectangular plank of wood. This is one of the standard living shapes of go.



Variation 1



Variation 2



Reference

Variation 1. Attachment

If White decides to try to attack on the inside, playing in the middle, either high or low, is his only alternative.

White 1 is answered by the attachment at Black 2. If White continues at 'a', Black plays 'b', and vice versa.

The outside liberties of the position have no effect on Black's life or death.

Variation 2. Attaching

If White makes his placement on the bottom, Black attaches at 2 and is clearly alive once again.

Just as an aside, should Black play elsewhere at 2, White will play at 2 and make a five-space big eye.

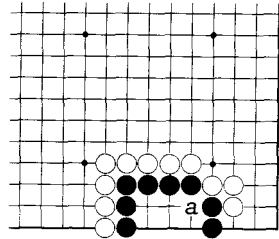
Reference. A stone is missing

The black stone at 'a' is missing; even so, there is no change in Black's status. Black answers White 'b' at 'c' and White 'c' at 'b'. Either way, there's no obstacle to Black's living.

Pattern 2

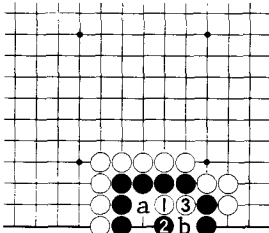
White to play, Black dies

When Black has this type of shape, there is only one thing he has to be careful about. White has played a stone at the shoulder point of the black position, creating a cutting point at 'a'. On top of that, nearly all of Black's outside liberties have been filled in.



Solution. A blind spot

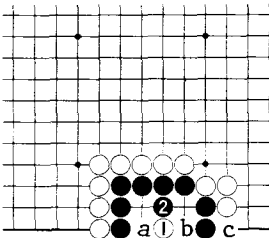
The white attachment at 1 means sudden death for the black group. Black has no choice but to attach at 2, but White cuts at 3 and Black can't play at 'a' without putting himself in atari. This result can be something of a blind spot for Black. If Black continues by connecting at 'b', White 'a' kills him.



Solution

Failure. Placement on the bottom

If White makes his placement on the bottom point, Black won't die. Black can simply attach at 2 and answer White 'a' by blocking at 'b'. A white block at 'c' is answered by Black 'a'.

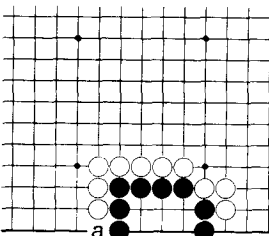


Failure

Reference. An extra liberty

This is the situation where Black has an extra liberty at 'a'. By comparing this to the solution diagram, you should be able to see that Black is alive.

This shows that when White fills in the liberty at 'a', Black can't neglect to add a stone on the inside of his position.



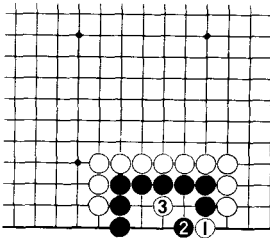
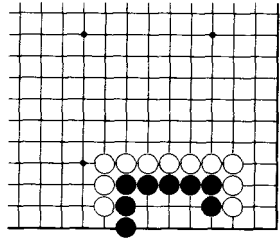
Reference

Pattern 3

White to play, Black dies

Black is missing a stone on the right side, so his six-space eye shape is no longer perfect.

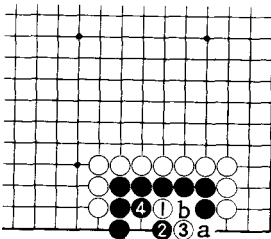
The killing sequence for White is simple, but if you haven't studied the fundamentals of life and death, you could end up with a ko instead.



Solution 1

Solution 1. The hane kills

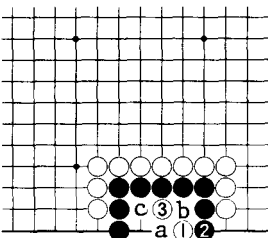
The single white hane at 1 does the job. That the position resulting from Black's block at 2 is a dead shape is simply part of the body of common knowledge of life and death.



Failure

Failure. Ko

White 1 is undoubtedly at the vital point, but it ignores the fundamentals. Black attaches at 2 and answers White 3 at 4 to get a ko. If White plays 3 at 4, Black plays 'a'. You can confirm for yourself that even if White extends inside to 'b', it becomes a seki, not a big eye.



Solution

Solution 2. A separate technique

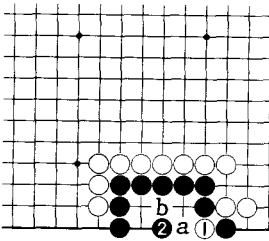
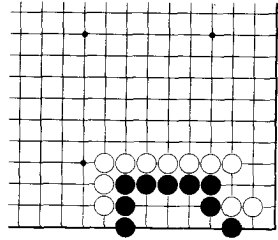
In the beginning White can also make the placement at 1 and, when Black blocks at 2, play 3 to kill the black group. If Black attaches with 2 at 'a', White plays at 2 and answers Black 'b' at 'c'.

Rather than using such a complicated method, however, killing with the hane keeps things much simpler

Pattern 4

White to play, Black dies

Black has a hane in place on the right side, but this is no substitute for the descent. White's method of killing adheres to the fundamentals, but there is a point midway through where it's easy to make a mistake.

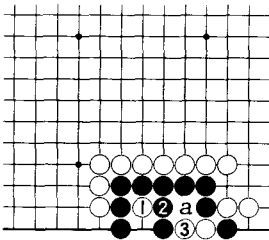


Solution 1

Solution 1. Trying to live a while longer

The throw-in at White 1 reduces Black's eye space. In response, if Black captures at 'a', White plays at 2 and there's nothing to talk about. For Black, however, dodging to 2 is a way to try and extend his life.

How should White play after this?

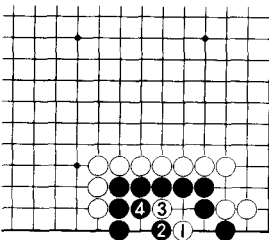


Solution 2

Solution 2. Playing inside

White simply plays in at 1. If Black plays 2, White answers at 3, and vice versa.

If instead White first pushes in at 3, Black will capture at 'a' and live.



Failure

Failure. Ko

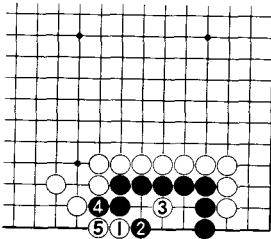
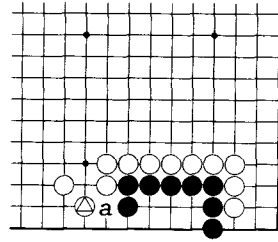
White's placement at 1 doesn't work in this position. Black's attachment at 2 is a nice answer. Black answers White 3 by defending at 4 and forcing a ko.

Outside of these possibilities, if White plays 1 at 3, Black attaches at 2, producing the same ko.

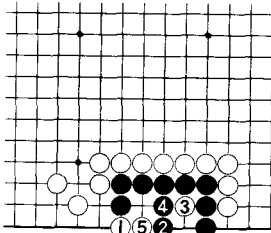
Pattern 5

White to play, Black dies

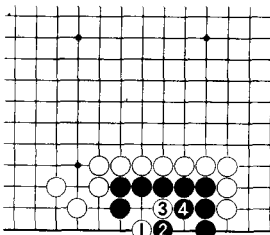
Compared to the descent at 'a', the marked white stone is a bit loose; even so, it's able to perform the same role as the other one. The idea is to use what you've learned so far.



Solution 1



Solution 2



Failure

Solution 1. Up to the attachment

The attachment at White 1 is an effective move. If Black blocks at 2, White is able to play inside at 3 and answer Black 4 at 5. Even if Black captures the two stones, he can't make an eye in the rubble.

If Black plays 2 at 5, White cuts at 4 and kills him.

Solution 2. Providing resistance

Black 2 provides some resistance, but then White 3 becomes the vital point inside. White answers Black 4 at 5. If Black plays 4 at 5, White can just stretch out inside at 4.

Failure. The corner

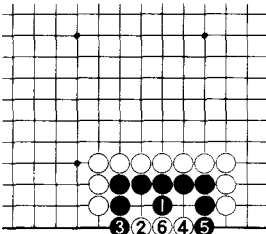
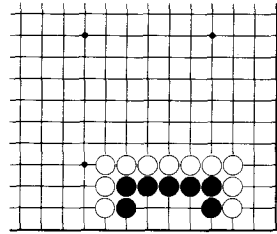
If White plays at 1, Black will attach at 2. White 3 and Black 4 give ko. White 1 at 3 produces the same a ko.

As another possibility, should White play 1 at 2, Black will attach with 3 and live.

Pattern 6

Black to play and live

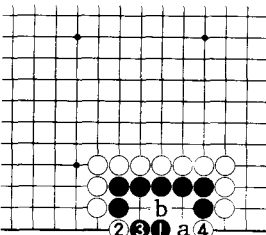
The question in this shape is how Black should go about living when he is missing the descent on both sides. The proverb says to play in the middle of a symmetrical position, but that still leaves you two possibilities to consider



Solution

Solution. Seki

Black 1 here is correct. If White wants to stop Black from getting two eyes, then making the placements at White 2 and 4, followed by the connection at 6, are his only choice. Needless to say, this position is a seki.

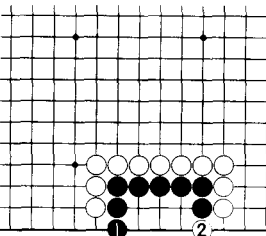


Failure 1

Failure 1. Efficiency

Black 1 is also in the middle of a symmetrical position, but this play isn't very efficient in making eye shape. White plays hane at 2 and at 4; Black doesn't have enough space in which to live. Even if Black blocks at 'a', White plays 'b'.

Black 1 simply has to be at 'b'.



Failure 2

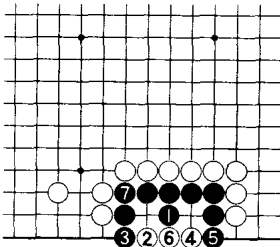
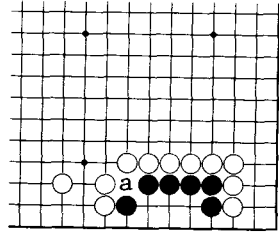
Failure 2. A dead shape

Black tries descending on one side to 1, but you have already seen that this position leads to a dead shape. White, of course, simply plays a hane at 2.

Pattern 7

Black to play and live

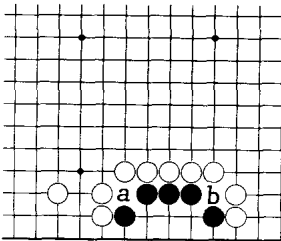
Black no longer has a stone at 'a', so his position is somewhat thin. Even so, he can just make life. Make sure you read the sequence out all the way to the end.



Solution

Solution. Connecting is important

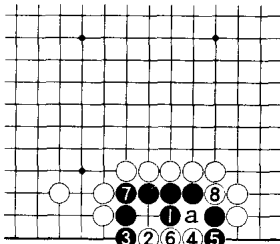
If he wants to live, Black 1 is the only move. For White as well, 2 and 4 are the only way he can keep Black from getting two eyes. When White connects at 6, if Black also connects at 7, he is alive. This connection is very important: if Black plays elsewhere, White will play at 7 and the position becomes a three-space big eye.



Reference 1

Reference 1. Thin

This time Black is missing stones on both sides, at 'a' and 'b', so his position is even thinner than before. Can he still live if it's his turn to play? Think a little about what you've seen so far.



Reference 2

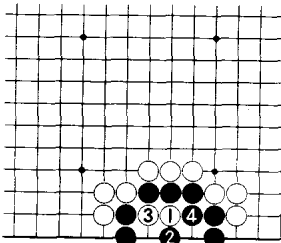
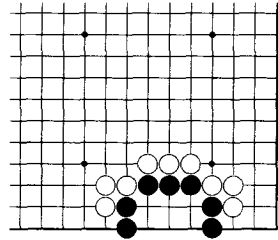
Reference 2. Three-space big eye

Black 1 is the only move, but after the sequence from White 2 to 6, there's no way for him to live. Even if Black connects at 7, White can play 8, so Black can no longer keep the space at 'a' open. Because of that, the shape is no longer seki but a three-space big eye.

Pattern 8

Black is alive

This is the genuine article, the comb shape. There are cutting points on both shoulders, but no matter how thin the position looks, the comb shape proves its value by being safely alive.

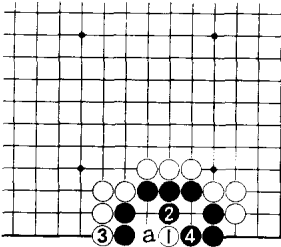


Variation 1

Variation 2. Counter-attachment

Black answers White's attachment at 1 with a counter-attachment at 2. When White cuts at 3, things look scary for a moment, but once he connects at 4, Black is alive.

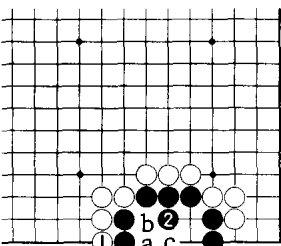
If Black connects with 2 at either 3 or 4, White descends to 2 and kills him.



Variation 2

Variation a. Scary

The placement at White 1 is also a scary looking play, but answering at Black 2 is good enough. If White blocks at 3, Black answers at 4, and if White plays 3 at 4, Black plays 'a'. Either way, Black just manages to live.



Variation 3

Variation 3. Blocking on the outside

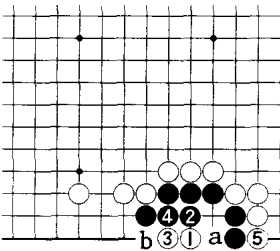
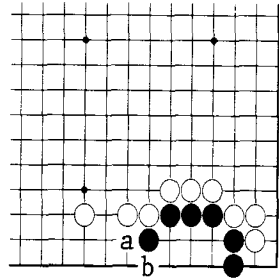
Blocking quietly on the outside with White 1 is an ironic play. Black defends at 2 and is alive. After this, even if White plays atari at 'a', Black connects at 'b' and nothing untoward can happen. Black can also make life by playing 2 at 'c'.

There is a well-known proverb which says, 'The comb shape is alive'.

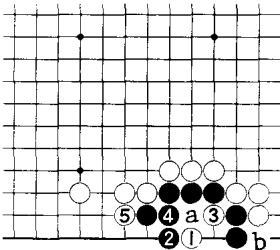
Pattern 9

White to play, Black dies

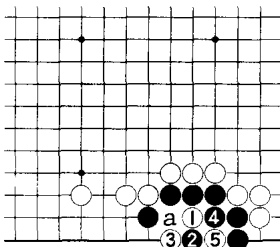
This position is one move short of the comb shape. If White continues by playing 'a', letting Black play 'b', then of course Black is perfectly alive, so he needs to come up with another way of playing.



Solution 1



Solution 2



Failure

Solution 1. The middle of three stones

White makes the placement at 1. This is the proverbial 'middle of three stones'. When Black plays 2, White has room to extend to 3 and then answers Black 4 by blocking at 5. Black cannot defend himself at 'a', and if he plays at 'b', White plays 'a' and makes a three-space big eye. White could also play 5 immediately at 'a'.

Solution 2. Shortage of liberties

If Black answers White 1 with the diagonal attachment at 2, White cuts at 3. Because of the shortage of liberties of the three stones forming his roof, Black can't play atari at 'a'. If he connects at 4, White can block at either 5 or 'b'.

Failure. Ko

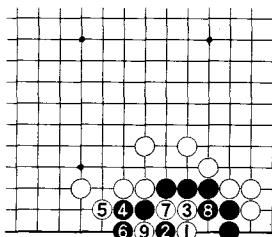
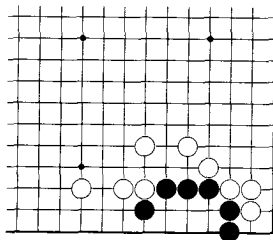
White 1 is undoubtedly another vital point, but Black will resist by attaching at 2. When White plays 3, Black 4 creates a ko.

If White cuts with 3 at 4, Black plays 'a', and if White cuts at 'a', Black plays 4 and in either case ends up alive.

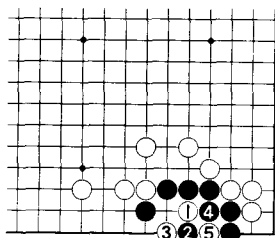
Pattern 10

White to play and make a ko

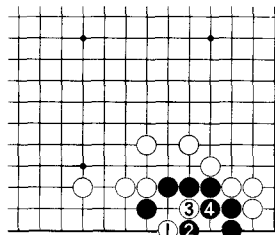
The roof of Black's position has some outside liberties. Compared to the last pattern, Black's situation has improved; White can no longer kill him outright



Solution 1



Solution 2



Solution 3

Solution 1. Diagonal attachment

As you might guess, the placement at White 1 is the vital point. This time the diagonal attachment at Black 2 is the best response. White 3 is answered by crawling to 4, and White 5 is met by Black 6 to make a ko.

If Black plays 2 at 3, White extends to 2 and he dies. Refer to the last pattern for a look at this.

Solution 2. The other attachment

If all he wants is a ko, White can also attach at 1 here. Black has no choice but to counter-attach at 2; White 3 and Black 4 follow. This ko has appeared any number of times already

Solution 3. Even the corner

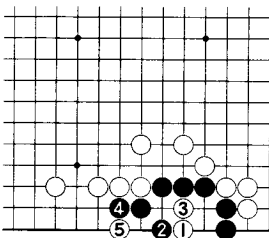
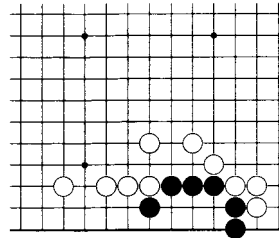
White has one more possibility: he can play at the corner of Black's position at i. Attaching with Black 2 is best, then White 3 and Black 4 give the same ko as in the previous diagram.

If Black plays 2 at 3, White crawls to 2 and kills him.

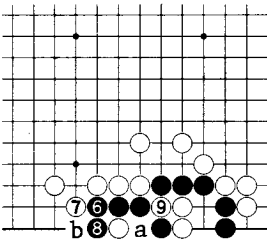
Pattern 11

White to play, Black dies

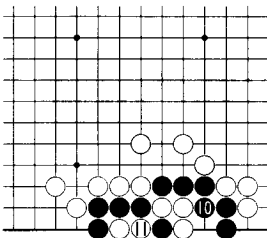
You might not think there's anything about this pattern different from the previous one. The left side of White's position, however, has been firmed up. Because of this, White needn't settle for a ko: there's a play which will allow him to kill the black group outright



Solution 1



Solution 2



Solution 3

Solution 1. An exquisite play

This is a particularly complicated problem and the sequence becomes somewhat lengthy

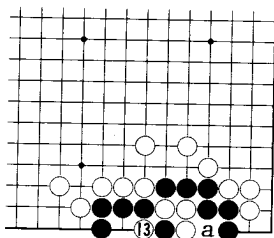
To begin with, the first move is the placement at White 1, as in the previous problems. After Black 2 to 4, White has the splendid play at 5 to lead Black to an unconditional death. Continuing after 5...

Solution 2. Cut

Black's only response is to push out at 6. After White 7 and Black 8, White cuts here with 9. If Black answers this by playing at 'a', White 'b' will put him in atari, so...

Solution 3. Recapture

Black is left with no choice but to attach on the right side at 10. White captures a stone with 11, but then Black can recapture two of the white stones with 12. The continuation after this is seen in the next diagram...

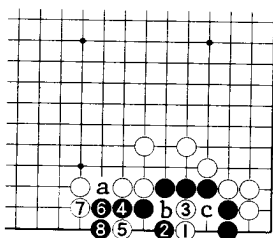


Solution 4

Solution 4. Five-space big eye

After Black has recaptured the two White stones, White recaptures one more time at 13. You probably already see that if Black now plays at 'a', White can connect up his stones, making a five-space big eye.

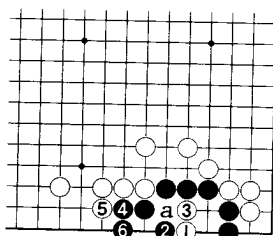
The surprise attack at White 5 in Solution 1 has worked out beautifully



Reference

Reference. A defect

This is the position from Pattern 10, seen before. You must be wondering if, in this situation, after White 1 to Black 4, the white attachment at 5 works. This time, however, there's a defect in White's position, so it won't work. Because of the liberty at 'a', Black can answer White 'b' at 'c', forcing the white stones into a shortage of liberties.

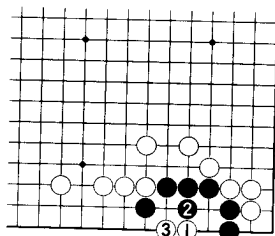


Failure 1

Failure 1. Ko

Going back to the original problem, after White 1 to Black 4, blocking at White 5 is unimaginative. Black descends at 6, creating a ko. Even if White cuts with 5 at 'a', Black answers at 6, producing the same ko.

By occupying the point at 6 for himself, White can deny Black the chance to make a ko.



Solution 5

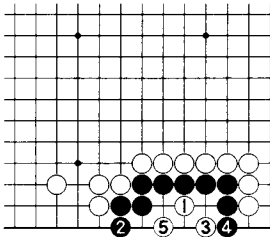
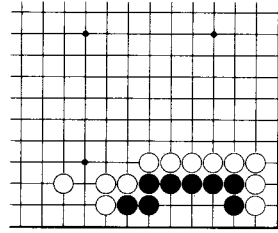
Solution 5. Dissatisfied

If Black answers White 1 with the attachment at 2, White simply extends to 3 and kills him. Even though Black dies in either case, not making the strongest response possible with 2 is somehow not satisfying.

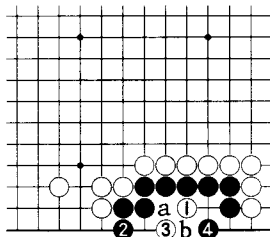
Pattern 12

White to play, Black dies

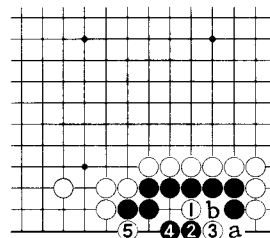
Because Black's position is wider than in the comb shape, it looks like he's alive, but, in fact, he's not. Not having a descent on either side is a major defect, so White has room to attach on the inside.



Solution 1



Failure 1



Solution 2

Solution 1. Double diagonals

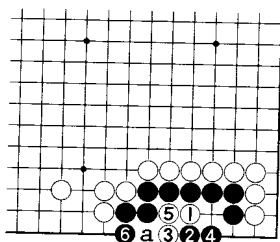
You can probably see that the attachment at White 1 is the vital point. When Black tries to expand his position at 2, making the diagonal play at 3 first is important. When Black plays 4, White makes another diagonal play at 5. You should confirm for yourself that this position isn't a seki but a five-space big eye.

Failure 1. The order is reversed

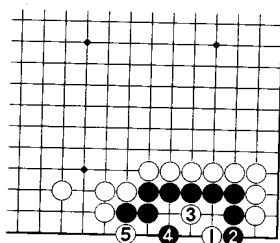
After White 1 and Black 2, if White makes the diagonal play in this direction first, Black manages to live. Black's diagonal play at 4 is the vital point, and now Black answers White 'a' at 'b' and vice versa to get a seki.

Solution 2. Confusing

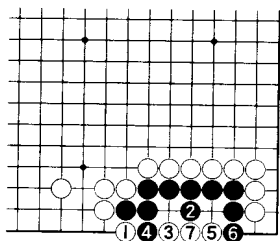
When White plays 1, resisting with the attachment at Black 2 might confuse White. White must answer this by playing atari from the right side at 3. When Black plays 4, White plays a hane at 5. If Black continues at 'a', White connects at 'b', and vice versa, so Black is dead.



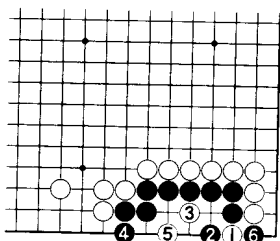
Failure 2



Solution 3



Failure 3



Failure 4

Failure 2.

Blocking on the opposite side

After White 1 and Black 2, if White plays atari on the opposite side at 3, Black will pull back with 4. White 5 is met with the descent to 6, giving a seki. Even if White plays 5 at 6, Black will play at 5 and live.

Another possibility, playing White 3 at 6, is met by Black 'a', followed by White 4 and Black 5, making a ko.

Solution 3. The second vital point

Considering the diagrams covered so far, you should be able to see that White 1 is also a vital point of this position. Playing White 1 directly is also a correct solution. When Black blocks at 2 White makes the diagonal attachment at 3. If Black plays 4, White can hane at 5; if Black 5, White makes the diagonal play to 4

Failure 3. The white hane

The white hane at 1 won't get the job done. It lets Black defend at the vital point with 2. After this, White has no choice but to make the placements of 3 and 5, and up to 7 he gets a gote seki.

White 1 at 3 also looks like the vital point, but Black defends at 2 and White has no way to continue.

Failure 4. Helping play

What about playing a bane from the right side with 1? This, however, forces Black to play at the second vital point with 2 and just helps Black out of trouble. White 3 is answered at Black 4, and when White plays

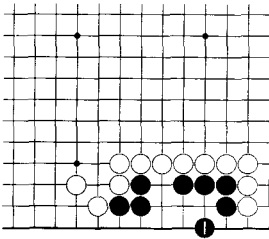
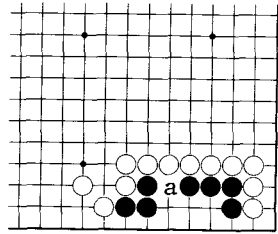
5, Black takes a stone at 6, making a seki.

White comes to regret having exchanged White 1 for Black 2.

Pattern 13

Black to play and live

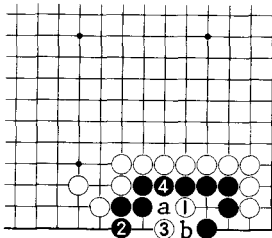
The hole at 'a' is a weak point, but if Black simply connects at 'a', this becomes the same position as in the last pattern, and he dies. The vital point is somewhere else.



Solution 1

Solution 1. Diagonal play

This is a confusing position because there are a number of possible alternatives for the first move, but the diagonal play at Black 1 is the only play which will allow Black to live. Lets look at the variations one at a time.

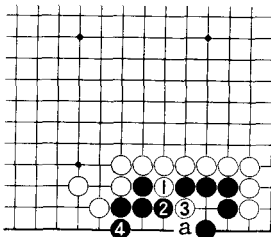


Solution 2

Solution 2. Attachment

After Black's diagonal play, White 1 is the vital point for malting eye shape. Its very important for Black to answer this by descending to 2. Now when Black answers White 3 by connecting at 4, he is alive. The plays at 'a' and 'b' are miai.

If White plays 3 at 4, Black can just defend at 'a'.

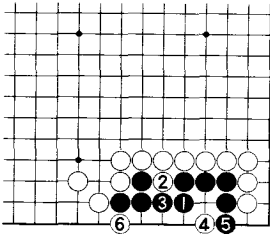


Solution 3

Solution 3. Push and cut

After making the diagonal play, Black needs to be careful about how he answers the push and cut of White 1 and 3. Descending to 4 is calm. If Black carelessly plays this move at 'a', a white hane at 4 will mean sudden death.

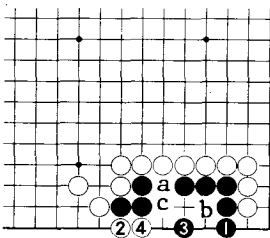
Failure 1. The vital point, but...



Failure 1

Going back to the beginning, Black 1 will be the very first play which comes to mind for making eye shape, but White will play 2 and 4 and just manage to kill the black group. When Black answers at 5, White plays a hane at 6.

Failure 2. Death by hane

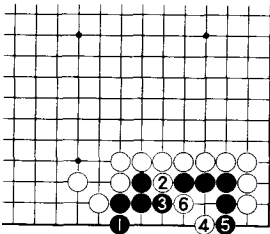


Failure 2

The descent to Black 1 is also not a very flexible answer. The white hane at 2 is a good move, and then answering Black 3 by pushing in once again with White 4 kills the group. After this, if Black plays 'a', White answers at 'b', and if Black tries 'b', a white hane at 'c' kills him.

Also, if Black should play 3 at 'a', White crawls to 4.

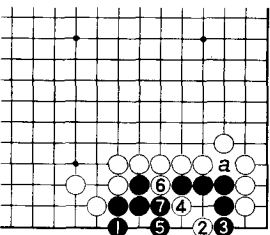
Failure 3. Shortage of liberties



Failure 3

What about descending with Black 1 here? Unfortunately, the four black stones on the right side suffer from a shortage of liberties, so White 2 and the placement at 4 mean instant death.

Reference. An extra liberty



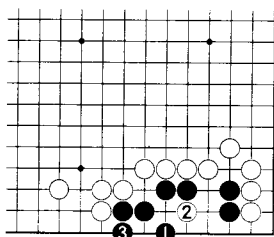
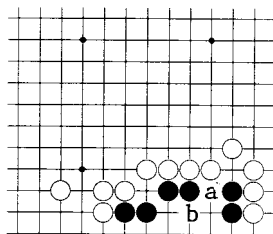
Reference

In this diagram Black has a liberty at 'a', so even if Black merely descends to 1, things won't go as they did in the last diagram. This time Black can live. White 2 and 4 are powerful plays, but Black 5 is a nice answer. In other words, in this situation there are two ways for Black to live.

Pattern 14

Black to play and live

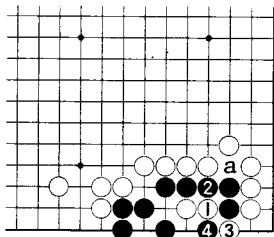
This is very similar to the previous pattern, so the first move is difficult to find. If Black merely connects at 'a', a white attachment at 'b' will kill him. Black is going to have to find a vital point somewhere inside his position that will enable him to live.



Solution 1

Solution 1. Diagonal play

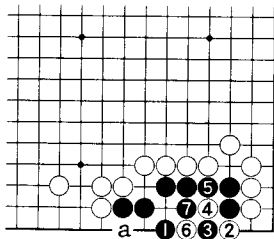
The diagonal play at Black 1 is the vital point. White has no choice but to wreck Black's eye with 2, but Black ignores this, making an eye with 3. The fact that the lone white stone at 2 is already captured is due to the workings of Black 1. This is demonstrated in the following diagrams.



Solution 2

Solution 2. Capturing in shortage of liberties

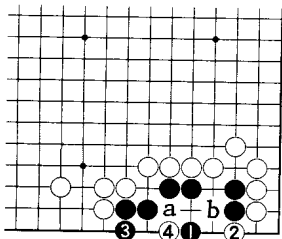
After the preceding diagram, it may seem White can connect underneath with 1 and 3, but Black throws in at 4, leading the white stones into shortage of liberties and capturing them. The salvation for Black turns out to be his open liberty at 'a'. If this were filled in, White could play 1 at 2 and Black would be dead.



Solution 3

Solution 3. Answering the hane

After Black 1, if White hanes at 2, Black simply blocks at 3. A white cut at 4 is answered by connecting at 5. When Black answers White 6 by playing atari at 7, he ends up capturing the white stones in the same manner as before. Black can even use 3 to descend at 'a' or at 7 and live as well.

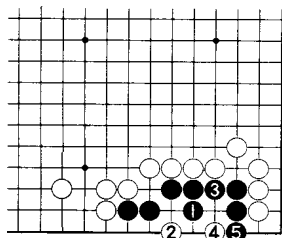


Failure 1

Failure 1. A confusing play

Back at the beginning, let's investigate whether there is any other way for Black to live.

Black 1 can be confusing and difficult for White to answer, but the hane at White 2 kills the Black group. Black 3 is met by the nice play at White 4, and after this, if Black plays 'a', White answers at 'b'.

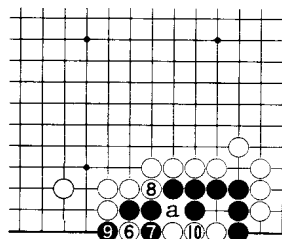


Failure 2

Failure 2. A powerful play

You can well say that Black 1 is a powerful way to play, and White's resistance to this can also be difficult. If he's going to try to capture the entire group, he needs to make the placement at 2. If instead he pushes in with 2 at 3, Black will play at 2 and live.

Well, it looks as if Black is alive up to Black 5, but...

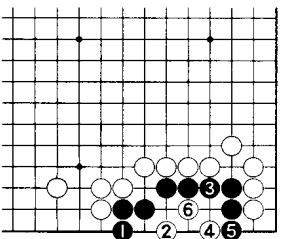


Failure 3

Failure 3. A nice sequence

White 6 and 8 are a nice combination. When Black plays 9, White gets the chance to connect at 10, producing a cutting point at 'a' which makes this a dead three-space big eye.

If White simply plays 6 at 10, Black will play at 6 and live.



Failure 4

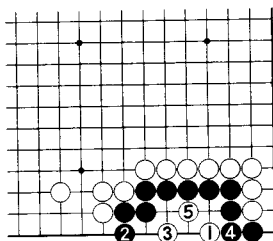
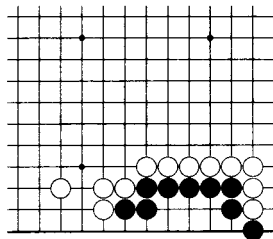
Failure 4. Five-space big eye

Going back to the beginning once again, if Black plays the descent to 1, the placement at White 2 becomes the vital point. Even if Black now expands his position by connecting at 3, the sequence of White 4 and 6 create a five-space big eye.

Pattern 15

White to play, Black dies

If there weren't a hane on the right side, it would be a relatively easy shape to kill, but since the hane is present, if you make a thoughtless play you could get tangled in its web.

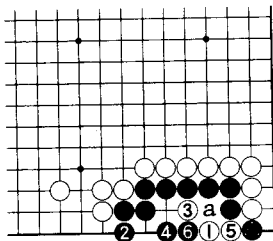


Solution 1

Solution 1. Placement

The placement at White 1 is the one and only solution to this problem. When Black descends to 2, the jump to White 3 is a nice move which might not occur to you. If Black connects at 4, White swells out to 5, making a five-space big eye.

If Black plays 4 at 5, White will of course push in at 4.

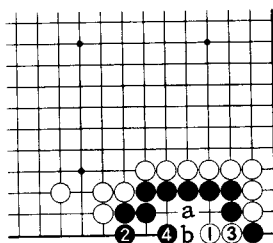


Failure 1

Failure 1. The role of the hane

After White 1 and Black 2, White 3 is too hasty. The diagonal play at 4 becomes a good move and when White pushes in at 5, Black answers at 6. White can't connect at 'a'.

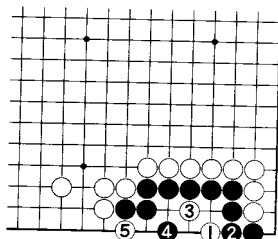
This is how the marked black hane entangles you.



Failure 2

Failure 2. Hasty

After the same White 1 and Black 2, pushing in with White 3 is also a bit hasty. Once again, the diagonal play at Black 4 is a good move. If White plays 'a', Black 'b' creates the same position as in the last diagram.

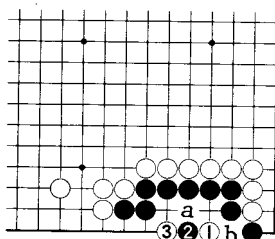


Solution 2

Solution 2. If Black connects

When White plays 1, if Black connects at 2, the story is simple. This time White simply makes the diagonal play at 3. Black 4 is answered by the White hane at 5. Also, if Black plays 4 at 5, White can play at 4, making a big eye.

If White should use 3 to jump to 4, however, Black will play at 3 and White fails.

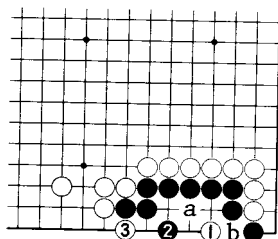


Solution 3

Solution 3. Confusing

In response to White 1, Black tries to confuse things with 2, but if White plays atari at 3, he kills Black easily. If Black connects at 'a', White plays 'b', and if Black plays 'b', capturing at 'a' is good enough.

Playing White 3 at 'a' lets Black play 3 and live.

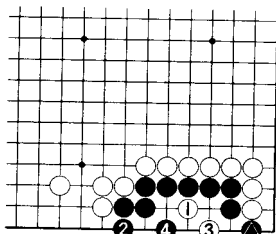


Solution 4

Solution 4. Miai

After White 1, what about Black 2? This too is not a very difficult position once you take a close look at it. White plays a hane at 3, making miai of 'a' and 'b', so Black is dead.

If White gets confused and plays 3 at 'a' or even 'b', Black descends at 3 and lives.



Failure

Failure 3. First impressions

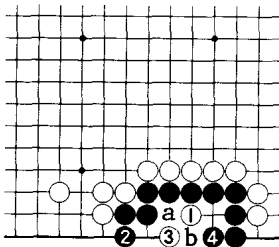
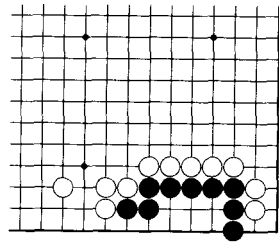
The white placement at 1 at first looks like the vital point for eye shape, but Black descends to 2 and, after answering White 3 at 4, is alive. In this position as well, the marked black hane is making its presence felt.

Even if White plays 3 at 4, Black can play 3 and live.

Pattern 16

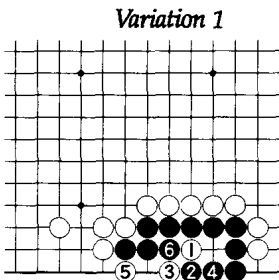
Black is alive

In place of the hane of the previous pattern, Black has descended to the edge of the board. Needless to say, this is a much more solid position, so even if White makes the first move, there is nothing he can do.



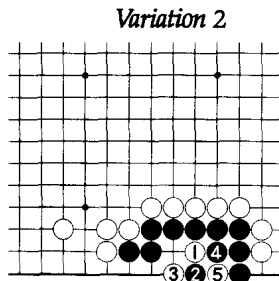
Variation 1. Arrogant

If White is going to try something, the attachment at White 1 is his only move. In response, descending arrogantly to 2 is the best move. Answering White 3 by turning to 4 prevents this from becoming a five-space big eye. Now 'a' and 'b' are miai, making a seki.



Variation 2. Inferior but...

When White plays 1, Black can live by playing the attachment at 2 as well. White 3 is answered by connecting at 4 and White 5 is met with Black 6. In that case White gets to make use of the hane at White 5, making this position somewhat inferior to the previous diagram.



Failure

Failure. Hasty

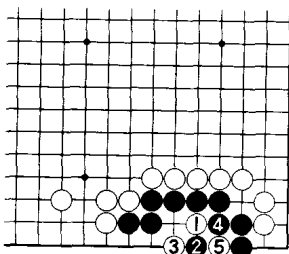
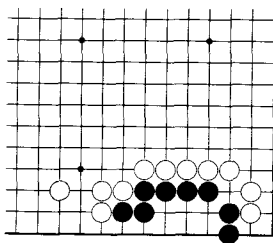
After the same sequence from White 1 to 3, Black hurries to play 4. There is absolutely no reason to make this ko.

In addition, if White makes his placement at 3 instead of 1, Black simply defends at 1.

Pastern 17

White to play and make a ko

What's different from the previous pattern? What's the meaning of that difference? In this shape it's Black's defense rather than White's attack that is in question.

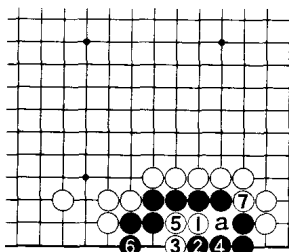


Solution 1

Solution. The best

The attachment at White 1 is correct. In this shape the black attachment at 2 is the best response, and after White 3 making ko with 4 is the only way to play. Some alternatives to Black 4 will be considered in the following diagrams.

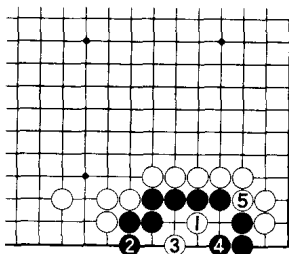
If instead of White 1, White makes a placement at 2 or 3, Black would play at 1 and live.



Variation 1

Variation 1. Fill it in

After White 1 to 3, isn't Black alive if he connects at 4? After the continuation of White 5, Black 6, White can play 7, filling in a liberty and crushing the open space at 'a'. Because of this, instead of becoming a seki, it's a dead three-space big eye.



Variation 2

Variation 2. As you thought

After White 1, descending to Black 2 doesn't go well either. White makes the diagonal play at 3 and, after Black turns to 4, fills in a liberty at 5.

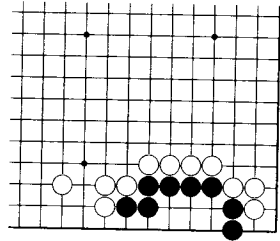
If you wonder about using Black 2 to connect at 5, White will answer with the same diagonal play at 3 and, after Black 4, White 2, Black is dead.

Pattern 18

White to play, Black dies

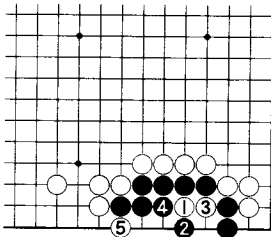
A variety of similar-looking shapes are coming up, but there are subtle differences in each one.

This time Black is dead. That might not be easy to see.

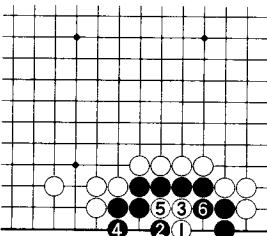


Solution. Attachment

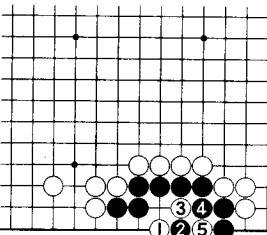
White's first move is, as you would expect, the attachment at White 1. The attachment at Black 2 looks like the strongest way to resist, but White cuts at 3 and it turns out to be surprisingly weak. Black 4 is met by the hane at White 5. It goes without saying that Black's shortage of liberties is fatal. If Black plays 2 at 3, he is dead after White plays 2.



Solution 1



Failure 1



Failure 2

Failure 1. Resistance

The placement at White 1 also looks like it should be effective, but it meets with resistance at Black 2. White 3 is answered at Black 4 and when White plays 5, Black fills in a liberty at 6. This isn't a ko; White is being crushed, so Black lives.

If Black bumps with 2 at 3, White extends to 2 and kills him

Failure 2. Ko

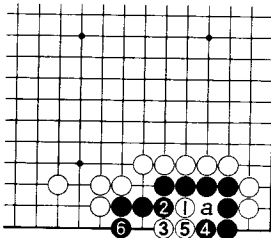
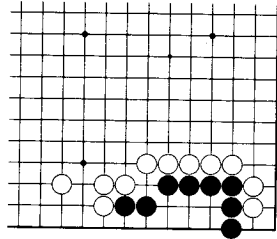
The placement at White 1 is also one of the vital points of this shape. Black must attach at 2, then meet White 3 at Black 4 to make a ko.

Here, too, if Black plays 2 at 3, White crawls at 2 and kills the group.

Pattern 19

Black is alive

If Black plays elsewhere, is there any way to kill the black group? The problem is how Black should defend after White plays at the vital point. In this position, if he plays on the bottom does it become a ko or can he avoid dying altogether?

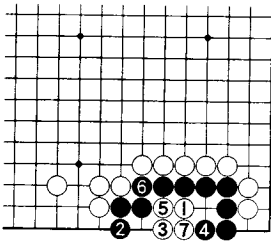


Variation. The triangle

White 1 is, of course, the vital point. In response, Black 2, at the apex of the triangle, is the only way to survive. When White plays 3, Black 4 is important. White 5 is answered by descending to 6, making a seki.

If White plays 3 at 5, Black plays 6, and if White plays 3 at 4, Black answers at 'a'.

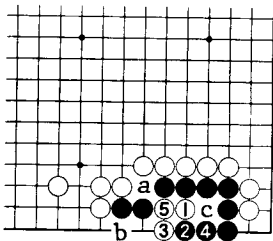
Variation



Failure 1. The weak point

In this shape, Black wants to answer White 1 by descending to 2, but after White makes the diagonal play at 3, this becomes strange. This is because after Black 4 and White 5, Black cannot omit playing at 6. After White 7, it's a five-space big eye.

Failure 1



Failure 2

Failure 2. Attachment

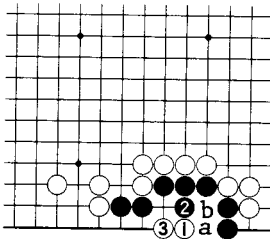
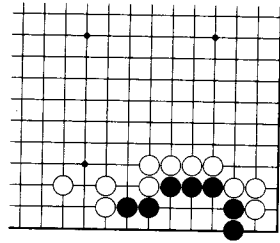
When Black has attached at 2 and White plays 3, a black connection at 4 is also met by a connection at White 5, so there's no way for Black to live. Next, Black 'a' is met by White 'b'.

After attaching at 2 Black has no choice but to answer White 3 at 'c' to start a ko.

Pattern 20

White to play, Black dies

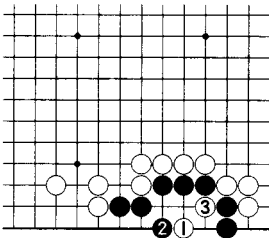
This shape is wider than the comb shape, but it's not necessarily always good simply to expand your shape. Compared to the comb shape, this position has more weak points. Also note that the three stones forming the roof of the black position are short of liberties.



Solution 1

Solution 1. Placement

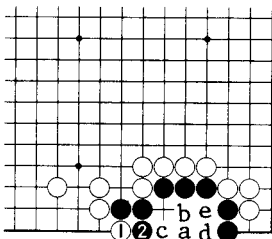
White 1 is at 'the middle of three stones': the vital point. If Black plays the bump at 2, White crawls to 3. At this point, Black can't play 'a', expecting to get an eye at 'b', so he's out of luck.



Solution 2

Solution 2. Shortage of liberties

If Black answers White 1 with the diagonal attachment at 2, White will cut at 3. The shortage of liberties of the three black stones is what allows White to play this way.

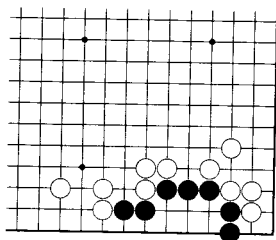


Failure

Failure. The comb shape

White has played a hane at 1, answered by a Black block at 2. This becomes the comb shape, and it is alive. Even if White continues by playing at 'a', Black answers at 'b'. Black can then answer White 'c' by blocking at 'd'.

Additionally, if White plays 1 at 'b', Black 'a', White 'c' and Black 'e' create ko.

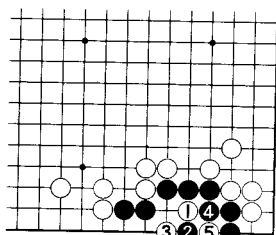


Reference 1

Reference 1. An outside liberty

This time we've given the three black stones an open liberty.

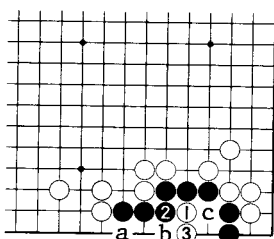
Now there is no reason to expect that White can play and kill the black group. What's the difference?



Reference 2

Reference 2. Ko

In this position, the attachment at White 1 is correct. Black is left with only the attachment at 2, then White 3 is met by defending at 4, producing a ko which we've seen many times before.

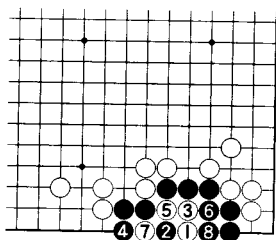


Reference 3

Reference 3. A dead shape

This variation is shown just to be thorough.

If Black answers White 1 by connecting at 2, White descends to 3. Black 'a' is met by the turn to White 'b', and Black is dead. Even if Black plays 2 at 'c', to connect, White plays 3.



Reference 4

Reference 4. The squeeze

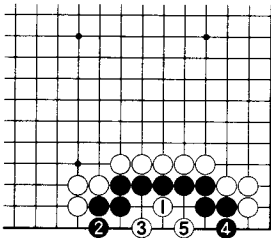
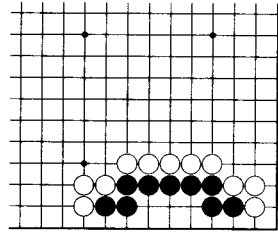
Meanwhile, why isn't the white placement at 1 any good?

This time, in answer to Black's diagonal attachment at 2, even if White cuts at 6 Black can play atari at 3. Consequently, White stands at 3, but Black makes an eye at 4, and with the atari at 6 gets a squeeze against the white stones.

Pattern 21

Black is alive

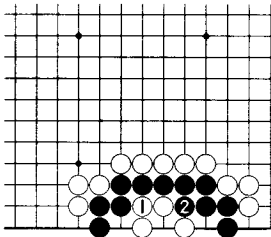
There is a foot on both sides of the black group, so the position has become quite wide. However the fact that the vital point has been neglected catches the eye. You should try to determine whether or not it is really possible for Black to play elsewhere.



Variation 1

Variation 1. Expand the position

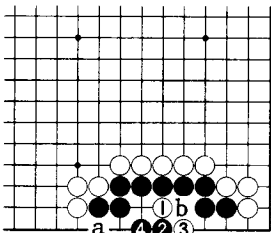
The question revolves around how Black will handle the attachment at White 1. At this point, Black first tries to expand his position by descending to 2. He then answers White 3 by again descending to 4. When White plays 5, you have to decide whether this group is alive or dead.



Variation 2

Variation 2. Seki

You might think at first that it's a five-space big eye, but it isn't. Suppose White plays 1. Black will answer at 2 to prevent a one-eye versus no-eye fight, and after that you can probably already see that it's a seki.



Variation 3

Variation 3. Attach underneath

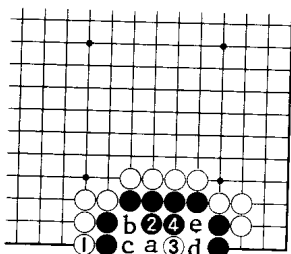
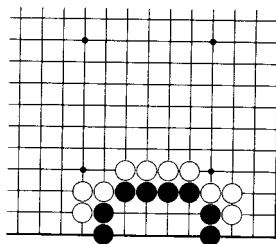
In response to White 1, Black could also attach underneath at 2. White 3 is then answered by pulling back to Black 4; 'a' and 'b' are miai.

Since this isn't seki but a living group, as far as territory is concerned, Black does better here than he does with a seki.

Pattern 22

Black is alive

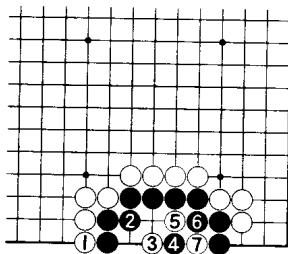
This pattern is one stone longer than the normal comb shape. When the position is long enough to have an eight-space eye, it's certainly not going to die. Even so, you can hurt yourself if you answer carelessly



Variation 1

Variation 1. Block on the outside

Lets try the block on the outside at White 1. Black has to make the open hanging connection at 2, and then answer the white placement at 3 with 4 in order to live. If he plays 4 at 'a', then he suffers a loss after White 'b', Black 4, White 'c' and Black 'd', so be careful. Also, if Black plays 2 at 'a', the sequence White 'b', Black 'c', White 3, Black 2, and White 'e' follows.

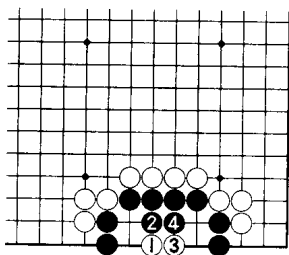


Failure

Failure. Defensive error

Answering White 1 by connecting tightly at Black 2 makes bad shape. The placement at White 3 causes trouble. Black is forced to attach at 4, and White 5, Black 6 lead to a ko.

If Black plays 4 at 5, White crawls to 4 and kills Black outright.



Variation 2

Variation 2. Beginning in the middle

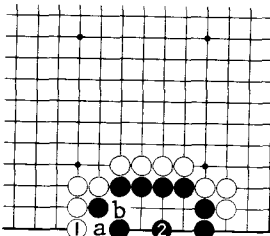
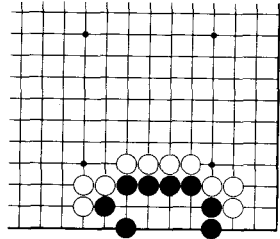
This time White begins by malting the placement at 1 in the middle here.

Just as before, Black is forced to play 2, and answer 3 by filling a liberty at 4 in order to live.

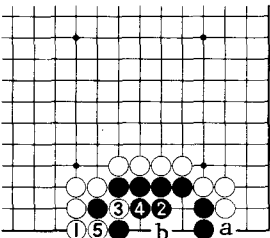
Pattern 23

Black is alive

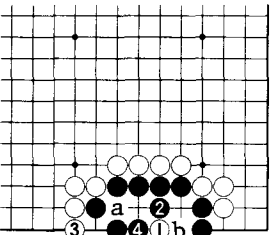
Black has descended on one side and made the open connection on the other. If you have a seven-space-eye group, You can assume you are safe. White doesn't have any especially effective way to attack.



Variation 1



Variation 2



Variation 3

Variation 1. The vital point for defense

The theme of this pattern is probably how Black should defend in response to the descent to White 1.

Black 2 is the vital point for defense. After this it's just a matter of endgame plays, but if White 'a' and Black 'b' follow, Black has five points of territory. Remembering this fact, take a look at the following diagrams.

Variation 2. An endgame loss

Let's take a look at defending against White 1 with Black 2. White 3 and 5 are a nice sequence; by connecting tightly at 6, Black can live, but when White plays 'a', Black must insert a stone at 'b', so from the point of view of the endgame, this is inferior to the previous diagram.

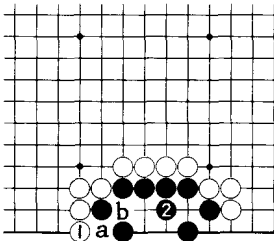
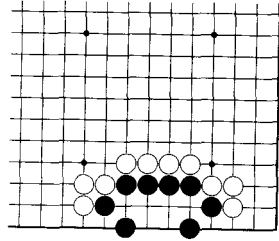
Variation 3. Answering the placement

Now let's try the placement at White 1. Black 2 is the correct answer and defending against White 3 at Black 4 is good. White 'a' would then be met by Black 'b'. If Black plays elsewhere with 4, White has the sequence beginning with White 'b', Black 4, and the tesuji at White 'a', so Black dies. Black can't play elsewhere with 4 after White 1 and 3 for the same reason.

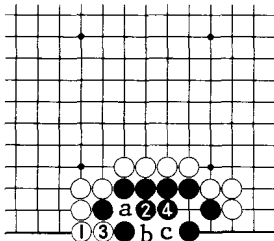
Pattern 24

Black is alive

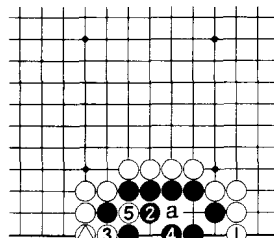
Black has made an open connection on both sides. Because this is a six-space eye shape, one space larger than the dead five-space shape, there is nothing to worry about even if Black plays elsewhere.



Variation 1



Variation 2



Reference

Variation 1. Descent

There is no really effective play on the inside for White, so at this point he'll probably just try something like the descent to White 1. In response, Black simply makes an eye at 2. White can continue at 'a', answered by Black 'b', but you should also check for yourself that it is possible for Black to play elsewhere instead of answering at 'b'.

Variation 2 A territorial loss

After White 1, Black could also play at 2, but this is a dubious way of living. When White plays 3, Black is forced to play at 4; if White continues at 'a', Black connects at 'b' and he has suffered a territorial loss compared to the previous diagram.

Connecting at 'a' instead of playing 4 is met by White 'c', leading to sudden death for the black group.

Reference. Playing elsewhere

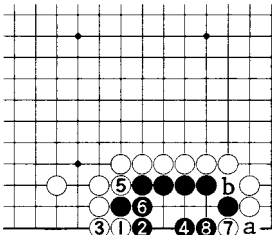
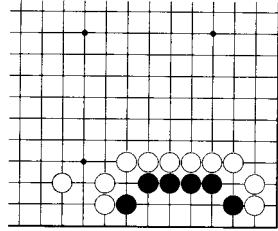
What happens if Black plays elsewhere in answer to the marked white stone? First descending to White 1 on the other side is a calm move, and up to 5 White gets a ko. Playing 1 at 'a', followed by Black 2 and White 3, also leads to a ko. If White simply

plays 1 at 3, Black will answer at 'a' and live.

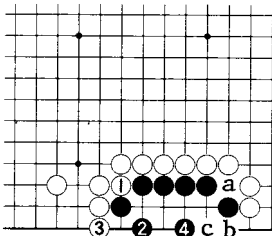
Pattern 25

Black is alive

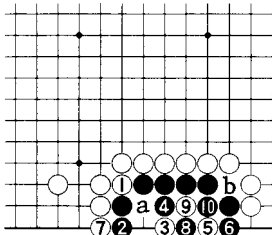
In this shape Black has made a diagonal play on both sides of his position. He has plenty of room in which to live, and playing elsewhere, as in the last several patterns, is also possible.



Variation 1



Variation 2



Variation 3

Variation 1. Hane and connection

Since there doesn't seem to be any particularly effective play available on the inside, White tries the hane and connection at 1 and 3.

Black 4 is the vital point for defense. Answering White 5 at Black 6 is good, and up to 8, it's a living bent-four shape. White 'a' is answered by Black b'.

Variation 2. Wedging in

How should Black defend against White's wedging in at 1? Making the open connection at Black 2 is the easiest way to live. If White plays 3, Black defends at 4, producing a shape which is roughly the same as the previous diagram.

If White plays 3 at 'a', Black can answer at either 'b' or 'c'.

Variation 3. Requiring caution

If Black answers White 1 by descending to 2, he is alive, but he needs to be careful, because White has the placement at 3 available. After White 5 to 7, Black 8 and 10 are nice moves. White does, however, get to capture two stones at 'a'. Note that if Black plays 8 at 'a', White 'b' kills him.

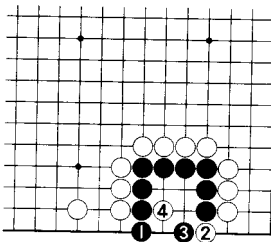
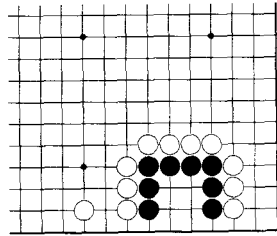
Part Eight

Fourth-Line Shapes on the Side

Pattern 1

Black is dead

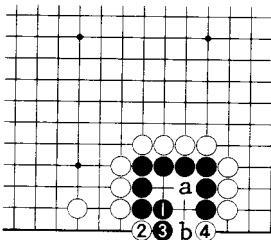
This is a Carpenter's Square on the side of the board. Because Black hasn't descended down to the first line, even if it's his turn Black cannot get a six-space-eye group. Since there's also no clearly defined vital point for making eye shape, there's no way for the group to live.



Variation 1

Variation 1. Descent

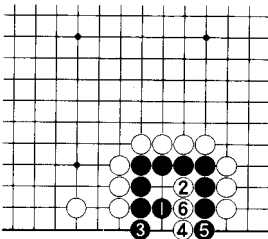
To begin with, let's try the descent to Black 1. In response, there's no need for White to try to come up with anything difficult. He can lead Black into a dead shape with the hane at 2. When Black blocks at 3, he has exactly a five-space eye.



Variation 2

Variation 2. Turning

What about turning with Black 1? It's enough for White to answer with a hane at 2. If Black 3, White plays a hane at 4. If Black descends with 3 to 4, White can either crawl to 3, or play inside at 'a' and kill the group. Also, if Black uses 3 to make an eye at 'a', White makes the placement at 'b'.



Failure

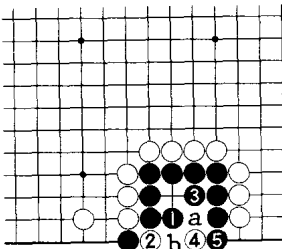
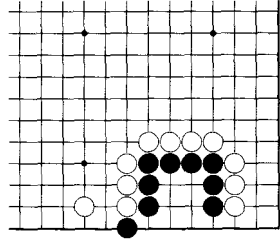
Failure. Getting confused

After Black 1, playing inside at White 2 is misguided. When Black descends to 3, White has no choice but to make the placement at 4, so Black 5 and White 6 produce a seki.

Pattern 2

Black to play and live

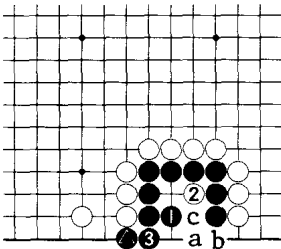
This time Black has a hane on the left side. This single hane does a lot of work, so if it's his turn, Black can live beautifully. This is one of the basic living patterns on the side of the board.



Solution 1

Solution 1. The effect of the hane

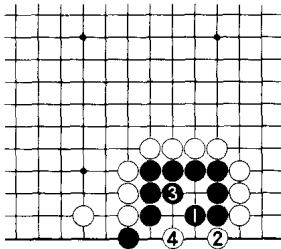
Black turns at 1. Be careful not to mistake this for turning at 'a'. You should memorize the idea of turning on the side of the hane. When White plays 2, Black makes an eye at 3. The white placement at 4 is blocked at Black 5, and White can't connect at 'b'. Now you can see how the hane works.



Solution 2

Solution 2. No relationship

If White answers Black 1 by playing inside at 2, Black connects at 3 to make his position as wide as possible. This is a way of living that has nothing to do with the marked black hane. The continuation White 'a', Black 'b', and White 'c' leads to a seki.



Failure

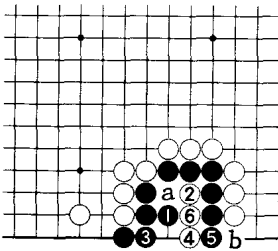
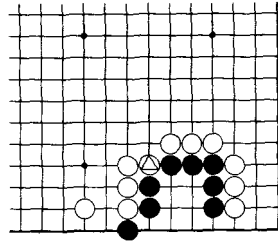
Failure. A mistake

You mustn't make a mistake in the direction of the turn. This Black 1 is met with the white hane at 2 and dies, because this time when Black makes an eye with 3, the placement at White 4 is successful.

Pattern 3

Black is dead

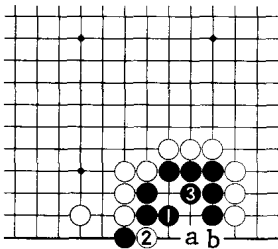
Black still has the hane, but White has the marked stone in place, so Black has a cutting point in his outer perimeter. This is a fatal injury, as Black can no longer live even if he plays first.



Variation 1

Variation 1. Three-space big eye

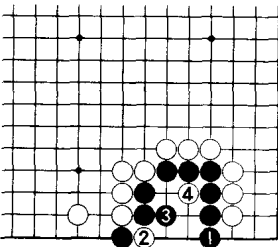
We'll try turning like before on the side of the hane. White plays inside at 2, and the sequence from Black 3 to White 6 follows. It looks like a seki, but if you take a close look you'll see that's not the case. Because of the cutting point at 'a', a white play at 'b' puts Black in atari.



Failure

Failure. In this case...

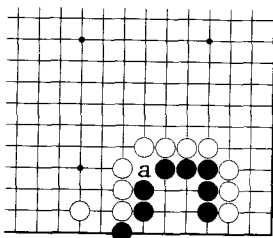
After Black 1, if White throws in at 2, he saves the Black group. Black makes an eye at 3 and answers White 'a' at 'b' to live. In this case, the black hane is making its presence felt.



Variation 2

Variation 2. Descent

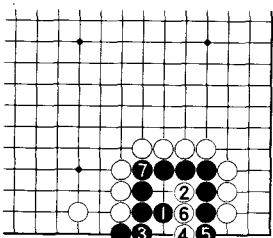
Let's try descending to Black 1. In response, White can simply throw in at 2. Even if Black turns at 3, playing inside at 4 is successful



Reference 1

Reference 1. An open corner

We've left the corner at 'a' open this time. If there were a black stone here, the black group would live, and if there were a white stone here, the black group would die, but the question is whether or not Black can live if it's his turn to play first

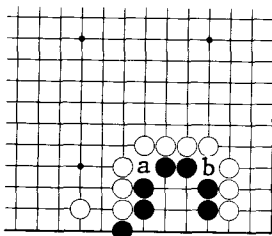


Reference 2

Reference 2. Alive

At any rate, the turn at Black 1 is the best move. For White as well, 2 is the only way to play. The sequence from Black 3 to White 6 then follows, but now it's Black's turn to play, so he can connect with 7.

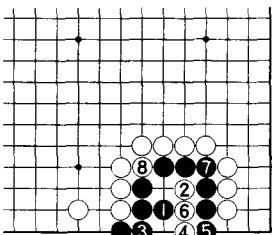
Consequently, Black is alive.



Reference 3

Reference 3. Open on both sides

In this case, both corners, at 'a' and 'b' are open. Can Black still live if it's his turn? You should try experimenting with the same ideas we've considered so far.



Reference 4

Reference 4. Dead shape

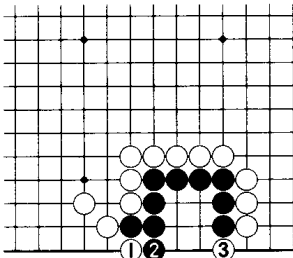
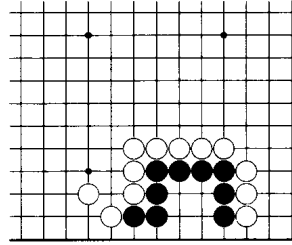
The moves from Black 1 to White 6 follow the same sequence we've seen before. Black has to continue by connecting at 7, but the other side gets filled in by White 8, so he dies.

Pattern 4

White to play, Black dies

A leg has been added to the black group, but if it's White's turn to play, Black won't be able to survive.

For White it's possible to make a mistake on the first move.

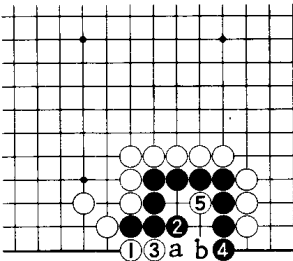


Solution 1

Solution 1. Hane

If you remember the basic pattern, this isn't particularly difficult. This is also a case where 'hane kills.' If Black plays 2, White answers at 3.

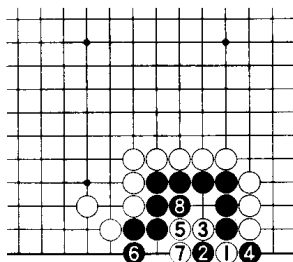
The way you should think about it is that White's first play leads you back to the basic pattern, which was dead.



Solution 2

Solution 2 Crawling in

If Black answers White 1 by turning at 2, White should crawl in to 3. The descent at Black 4 is met by the placement inside at 5. If White crawls in again with 5 at 'a', Black will block at 'b' and by placing the three white stones in atari will manage to live.

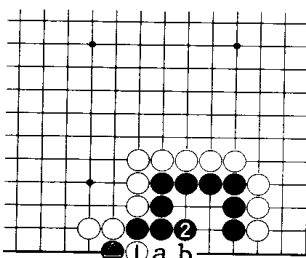


Failure

Failure. Hane on the opposite side

It's the same move, a hane, but this one is a mistake. After Black blocks at 2, there is no way to kill the group unconditionally. White 3 and 5 look best, but Black gets a ko after 6 to 8.

If White plays 3 at 5, Black plays 3, and answers White 8 with Black 6 to live. If White plays 3 at 6, Black plays 5.

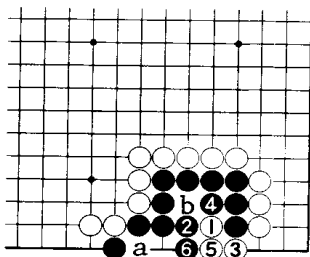


Reference 1

Reference 1. Adding the hane

This time the marked black hane has been added. Now, even if it's White's turn to play, Black will not die.

The throw-in at White 1 is met by a black turn to 2. If White continues by crawling in at 'a', simply capturing at 'b' is good enough.

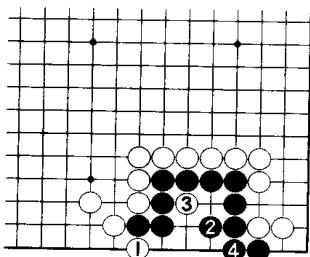


Reference 2

Reference 2. Belly attachment

In the same position, let's look at what happens if White makes the belly attachment. Answering this with the bump at Black 2 is good, and though this allows White to connect underneath with 3, playing atari with 4 and 6 gives Black enough space to make an extra eye.

If White plays 1 at the hane of 3, Black turns at 1, and answers White 'a' at b' to live.

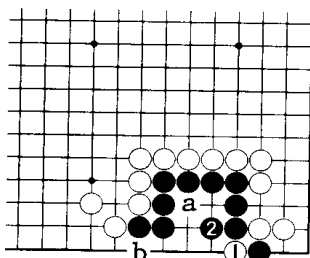


Reference 3

Reference 3. Hane on the right

In this shape, Black has an extra leg on the left side and his hane on the right side. This hane, as you might expect, is quite valuable, and so even if it's White's turn to play, Black is alive.

The hane at White 1 is met by the turn to Black 2. If White continues with 3, Black plays 4, and if White tries 4, Black plays at 3.



Reference 4

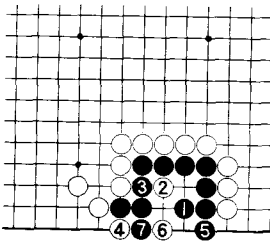
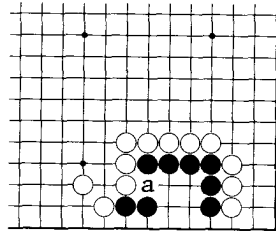
Reference 4. The same idea

If White begins with the throw-in at 1, again Black turns at 2. If White continues at 'a', Black plays 'b', and if White 'b', Black 'a'. By now you should thoroughly understand the role of the hane.

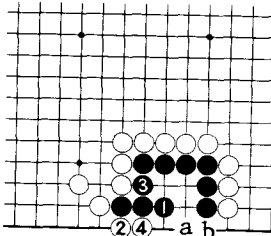
Pattern 5

Black to play and live

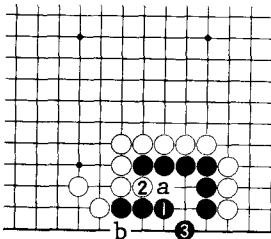
The opening at 'a' is a major weak point for Black. How does he cover this up, is the question, but first you should consider what happens if he makes an ordinary connection.



Solution



Failure 1



Failure 2

Solution. An inside vital point

If Black makes the ordinary connection with 1 at 3, as we've seen before, White will play a hane at 4 and kill the group.

The solution is to make eye shape with Black 1 here. White is forced to play at 2, so now Black connects with 3. White 4 is met by Black 5, expanding his eye space and living. If White plays 4 at 5, Black plays 4.

Failure 1. Doubtful

Black 1 also looks like it should be effective, but after White makes the hane at 4, living is doubtful. If Black connects at 3, White crawls to 4 and kills him. Also, even if Black plays 3 at 4, after White 'a' and Black 'b', White will push in at 3, leaving the group dead.

Failure 2. Just barely

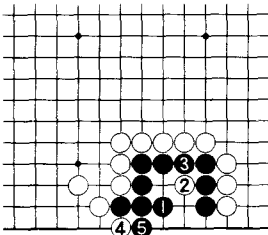
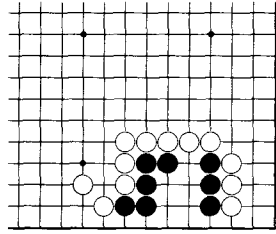
After Black 1, pushing in with White 2 is rash. Black 3 is the vital point for making eye shape, and Black just manages to live.

If Black blocks with 3 at 'a', White will hane at 'b', and Black dies.

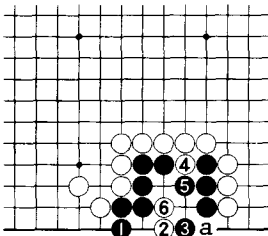
Pattern 6

Black to play and live

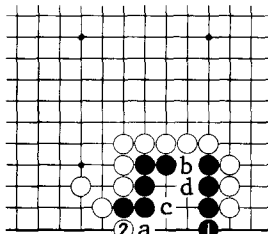
This time there is an open air-hole in the ceiling of Black's position. If he simply connects, it should be obvious that he will die. If so, then he must look inside to find the vital point for making eye shape.



Solution



Failure 1



Failure 2

Solution. Turn

The answer is to turn to Black 1. White has to try and wreck Black's eye with 2, so Black connects at 3. After answering White 4 at Black 5, we get a shape which, as we've seen many times before, is alive.

If White simply plays a hane with 2 at 4,
Black lives easily by playing 2

Failure 1. A nice sequence

What about expanding his base with 1 on the lower side?

White 2 becomes the vital point, and when Black plays 3 to keep him from connecting underneath, White 4 and 6 are a nice sequence. Even if Black blocks with the descent to 'a' instead of 3, the sequence of White 4 and 6 still works. Pushing in first with White 2 at 4 is bad.

Failure 2. The hane kills

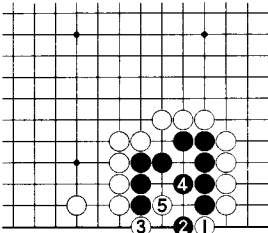
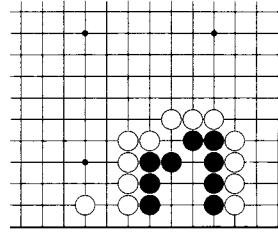
If Black descends with 1, White plays a hane at 2. If Black now plays 'a', White answers at 'b', and if Black 'b', White 'a'; either way, it becomes a five-space big eye.

Also, when White plays 2, if Black tries 'c', White 'd', Black 'b' and White 'a' leave him dead.

Pattern 7

White to play, Black dies

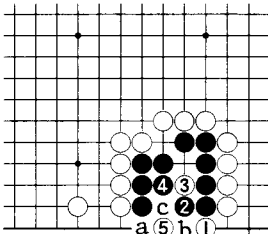
This black group has swelled upwards one space higher. It certainly doesn't look like it will die, but White has a nice sequence which will leave the group with only one eye.



Solution 1

Solution 1. The order of the hanes

In this shape it's difficult to decide which side you should make your hane from, but White 1 is correct. When Black plays 2, White plays hane again at 3. This order is very important. Now it appears that Black has no choice but to grab an eye with 4, but White 5 is a superb hane. The hane at White 1 is working very effectively now.

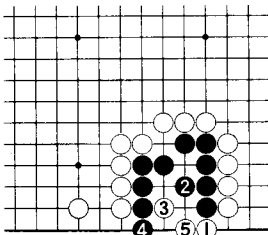


Solution 2

Solution 2. Inside

If Black answers White 1 by turning to 2, playing 3 inside is a very important point. When Black plays 4, the placement at White 5 kills him.

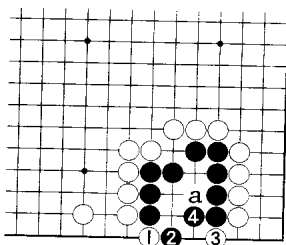
If White simply plays 3 at 5, Black lives after Black 'a', White 'b', and Black 'c'.



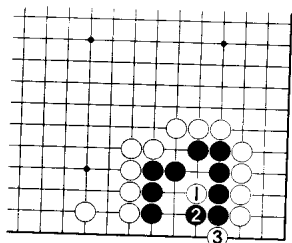
Solution 3

Solution 3. Attachment

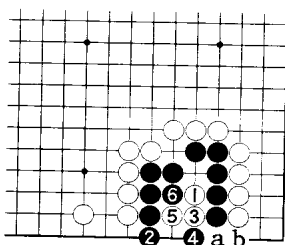
In response to the white hane, here Black tries to make eye shape right away with Z. Unfortunately, the attachment at White 3 is successful, and after White connects underneath at 5, Black is dead. If Black blocks with 4 at 5, White connects underneath on the left side at 4.



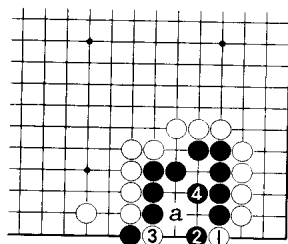
Failure 1



Failure 2



Failure 3



Reference

Failure 1. Hane on the left

Why is beginning with the hane on the left side wrong? It's because after Black 2 and White 3, Black will give way with 4.

When White played 1 at 3, if Black played 4, he still had the tesuji at 'a'.

Failure 2. Beginning inside

To go back to the beginning, White 1 is unmistakably at the vital point for eye shape. If Black answers this play by defending at 2, White will play a hane at 3 and kill him, but Black has made a defensive error here.

Failure 3. Resisting

Answering White's play inside at 1 by descending to 2 puts up more resistance. White 3 is then met with a hane at 4, and when White plays 5, Black plays 6 to avoid a five-space big eye and it becomes a seki. Even if White plays 3 at 'a', with the sequence Black 4, White 3 and Black b', he gets the same result

White 1 is a mistake.

Reference. Black has a hane

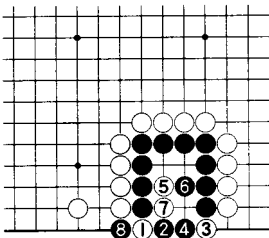
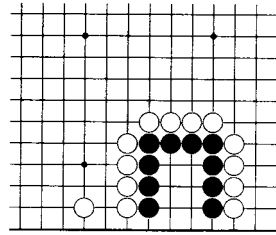
A hane has been added to the left side of Black's position. In this case, even if it's White's turn to play, Black is alive.

Black can answer White's hane at 1 by blocking at 2, and the throw-in at 3 by making an eye with 4. In this position, turning up at 'a' isn't going to work for White.

Pattern 8

Black is alive

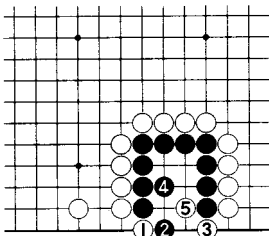
The roof has become one step higher, and the shape is longer. If White is to attack, it's become a little bit confusing, but there's no way to kill the black group.



Variation 1

Variation 1. Only the hane

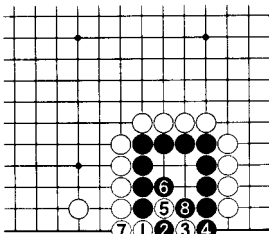
At any rate, the only way to proceed is with a hane. If White begins with 1, Black blocks at 2. White 3 is also met by a block at Black 4, and the question is whether there is any way to continue. White tries playing inside at 5, but after Black 6 and White 7, Black captures at 8 and is alive.



Failure

Failure. On the contrary

After White 1, Black 2, and the hane of White 3, if Black tries to be too cautious, rather than being safe, it becomes more dangerous for him. For example, if he plays 4, he probably thinks he's playing very tightly, but it's just the opposite. White turns up at 5, and Black is dead.



Variation 2

Variation 2. Warning

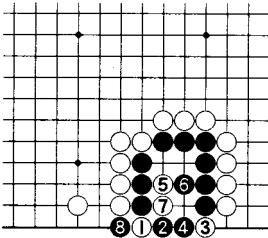
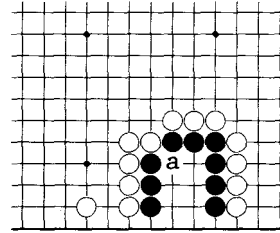
After White 1 and Black 2, the atari at 3 is a strong way to play, and Black needs to exercise some caution. By answering with Black 4 to 6 and 8, he is alive.

If he carelessly plays 4 at 7, to capture the stone, White 4, Black 8, and White 6 kill him

Pattern 9

White to play, Black dies

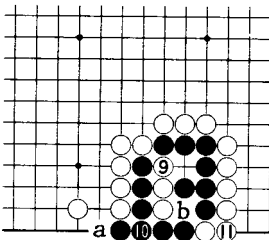
The outline of this pattern is the same as the last, but note the cutting point at 'a'. If White attacks systematically, he can just manage to kill the group.



Solution 1

Solution 1. Dual hanes

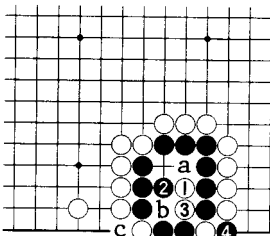
White plays hane from both sides with 1 and 3, with the order being unimportant. When Black plays 4, White attaches at 5. With 6 Black tries to make a seki, but Black has to answer White 7 by capturing at 8. To continue...



Solution 2

Solution 2. Three-space big eye

White then cuts at 9. Black is forced to connect at 10, so White gets to connect at 11. Since Black is fated to answer a white move at 'a' with 'b', it's not a seki, but rather a three-space big eye.



Failure

Failure. Seki

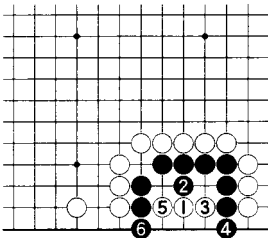
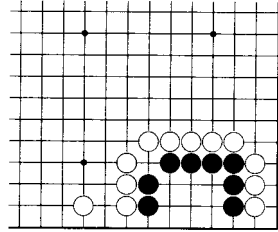
After the two hanes, attaching on this side is a mistake. After Black 2 and White 3, Black captures at 4. After this, even if White extends inside to 'a', the result is a seki.

Additionally, note that playing White 1 here at 'b', followed by Black 'c' and White 2, is another way to kill the black group.

Pattern 10

Black is alive

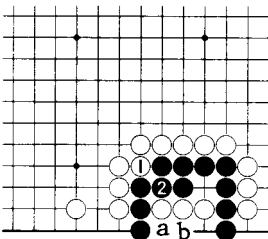
This is again a fourth-line shape, but this time it's been made wider. Because of its width, it's a living shape, but there is a chance of Black's making a defensive error and so dying.



Variation 1

Variation 1. Placement

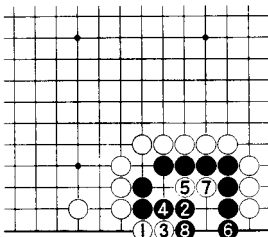
The placement at White 1 can be called a vital point of the shape. Answering with the bump at 2 is good enough. White 3 is of course met by the descent to 4, as White 5 is met by Black 6. At this point, the situation is not completely clear, so we need to follow things a little bit further.



Variation 2

Variation 2. Seki

Continuing after the previous diagram, Black answers White 1 by connecting at 2. At this point you need to be able to see that it's not a five-space big eye, but a seki. Actually, after this Black mustn't forget that if White should play at 'a', he has to insert a stone inside at 'b'.



Variation 3

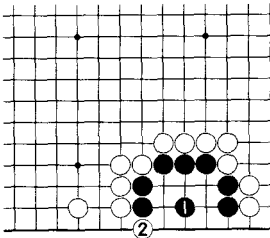
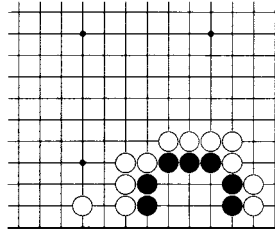
Variation 3. Hane

Going back to the beginning, if White starts with the hane at 1, defending at the vital point with 2 is a tight way of playing. Even so, Black mustn't be careless; answering the extension to White 3 by connecting here at 4 is very important. Now even if White plays inside at 5, Black can descend at 6 and live.

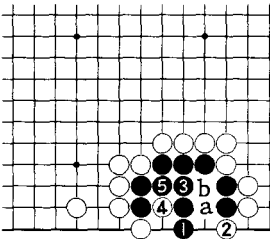
Pattern 11

Black to play and live

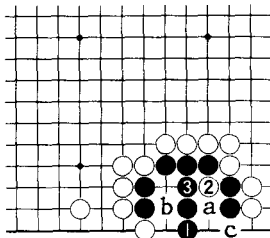
Naturally it's Black's turn. Also, you probably already know the first play, but in this position, the variations beginning with White 2 prove to be unexpectedly complicated. Finding the play which secures unconditionally life for Black may be tricky



Solution 1



Solution 2



Solution 3

Solution 2. How to answer the hane?

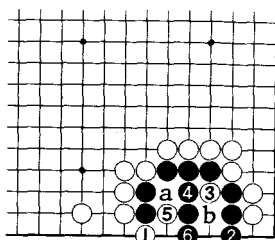
The first move is of course Black 1. In response, the hane at White 2 is an extremely troublesome move. How should Black defend?

Solution 2. Descend

The solution is the descent to Black 1. It's a somewhat unnatural play, and you might be surprised by it If White plays a hane at 2, Black connects at 3. The position has become symmetrical, and when white plays atari at 4, Black connects at 5 and captures a stone. A white play at 'a' gives the same result on that side.

Solution 3. Answering the cut

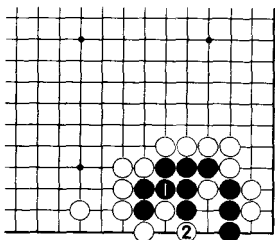
After Black 1, if White cuts at 2, connecting at 3 is good enough. Instead of 3, a black play at 'a' would also make Black alive, but then in answer to a white play at 'b', Black would have to descend to 'c'. Giving up the two stones is a loss.



Solution 4

Solution 4. Capturing two stones

Going back to the variation where White plays a hane at 1, if Black descends to 2, he is also just alive. The cut at White 3 is answered at Black 4. However, when White plays 5, Black has to descend at 6. Having two stones captured after White 'a' and Black 'b' is a significant loss.

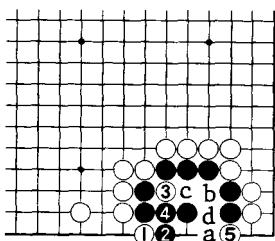


Failure 1

Failure 1. Ko

Instead of Black 6 of the previous diagram, if Black carelessly connects at 1 here, White will hane at 2 and start a ko.

No matter what he does, Black needs to be careful about his shortage of liberties in this position.

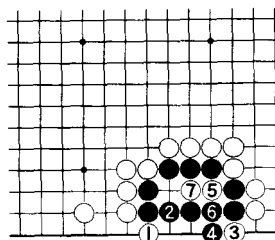


Failure 2

Failure 2. Double atari

When White plays the hane at 1, why is it bad for Black to block at 2?

After White 3 and Black 4, the hane of White 5 appears. Now Black 'a' is met by White 'b'; a black play at 'c' is met by White 'd'; and connecting at Black 'd' is answered by White 'c', Black 'b' and White 'a'.



Failure 3

Failure 3. Ironic

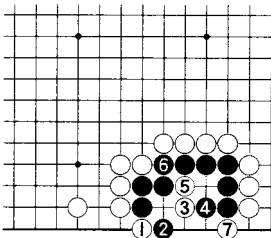
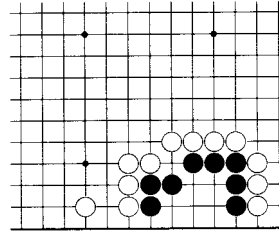
In response to the White hane at 1, let's consider connecting with Black 2 this way. Once again the white hane at 3 is an ironic play. When Black blocks at 4, White 5 and 7 kill him.

Pattern 12

White to play, Black dies

Black's shape has a different level in it this time, but all that means is that the vital point has been made more obvious.

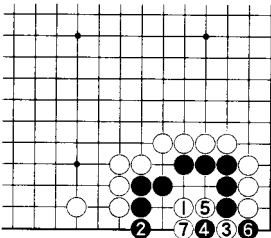
The problem centers on the question of whether it's a seki or a big eye, so it may be a bit troublesome.



Solution 1

Solution 1. Begin with hane

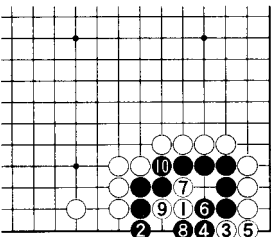
When White plays a hane at 1, blocking at 2 is the only move. After that it's easy to see that White should next play at the vital point with 3. White answers Black 4 by forcing with 5, and when Black answers at 6, White plays 7. It's obvious that this is a dead shape.



Solution 2

Solution 2. Flowery six

Beginning with the placement at 1 produces an abundance of variations, but it does kill the group just the same. White answers Black's descent at 2 with the nice sequence from 3 to 7. You can verify for yourself that should Black connect with 8 at 3 to save the stone, it doesn't become a seki, but rather a flowery-six big eye.

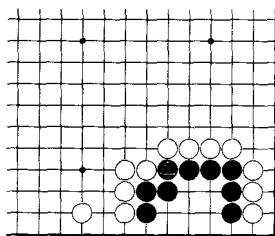


Failure

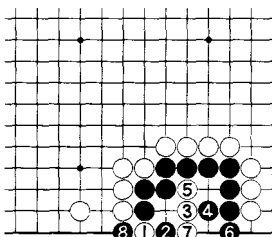
Failure. Seki

After White 1 and Black 2, playing hane and connection at White 3 and 5 is dubious. When White plays 7, Black answers at 8, and then connects after White 9 at 10 to get a seki.

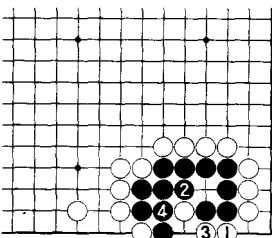
White's mistake in this position was letting Black play at 6.



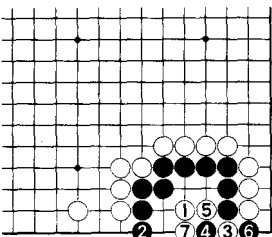
Reference 1



Reference 2



Reference 3



Reference 4

Reference 2. strengthen

This time Black has connected with the marked stone. There is no longer a weak point in his perimeter, so it's purely a question of whether his group has enough space. Is there still a way for White, if he plays first, to kill him?

Reference 2. Seki

Just like before, the hane and placement at White 1 and 3 are probably the strongest way to play. This time, however, after White 4, Black 5, and White 6, Black is blessed with the chance to play the descent at 6. White 7 is then answered by capturing at 8, yielding a seki.

Instead of White 5...

Reference 3. Dangerously

If White plays the hane at 1 here, Black 2 is an important play. When White crawls to 3, you might think for an instant that it looks dead, but Black connects at 4 and has no problems here.

If Black does something like block with 2 at 3, White will steal an eye by playing at 2, and Black dies.

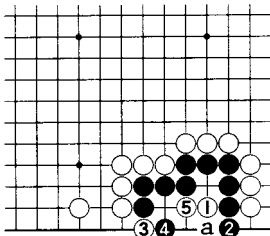
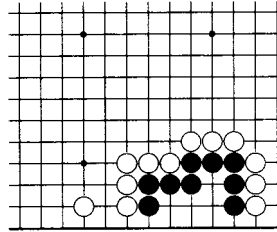
Reference 4. A trap

For White, the alternative of making the placement at White 1 directly might look interesting, if only because of the large number of possibilities that arise. If Black answers this by bumping at 5 he can get life, but if he tries something like descending to 2 instead, White has the sequence from 3 to 7 and gets the dead flowery-six shape.

Pattern 13

White to play, Black dies

With this pattern we return to a primarily third-line shape. The bulge in the shape provides some resiliency, but the vital point is obvious, so Black's position is unexpectedly fragile.

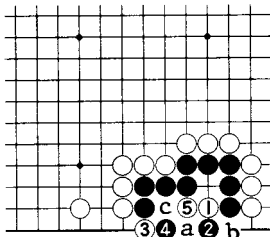


Solution 1

Solution 2. Belly attachment

With the belly attachment at 1, White aims to cross underneath. If Black descends to 2, then after first playing the hane at 3, White extends to 5. The base of Black's group is too narrow to get a seki.

White can also play 3 at 5, answer Black 3 at 'a' and kill the group.

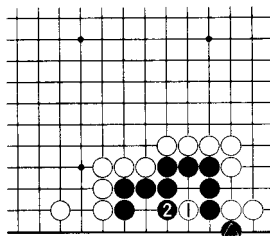


Solution 2

Solution 2. Even the hane

Even if Black answers White 1 with a hane at 2, the sequence of White 3 and 5 still creates a four-space big eye.

If White simply plays 3 at 5, after Black 3, White 'a', Black 'b' and White 'c', the group is still dead, but that's a bit drawn out



Reference

Reference. Can't link under

In this position, Black has played hane with the marked stone. In this case, even if it's White's turn to play, Black is alive.

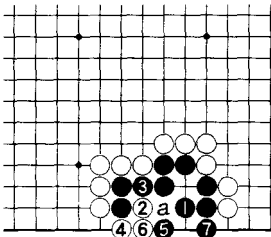
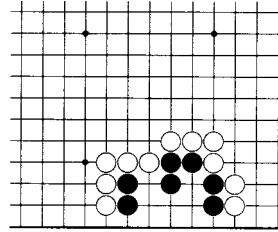
White tries to make the same attachment, but since there's no way that he can connect underneath, Black can defend at 2

Pattern 14

Black to play and live

This certainly looks like a fragile shape, but by making a single play at the vital point, you can fix things up.

If you don't read things out precisely, all the way to the end, you might find you've tricked yourself.

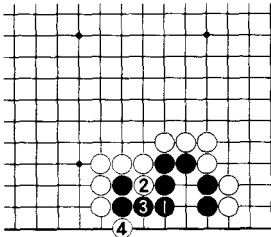


Solution

Solution. One more eye

Making an eye with Black 1 here is good enough. When White attaches with 2, for an instant it looks as if Black is going to die, but after Black 3 and White 4, Black can make one more eye with 5 and 7.

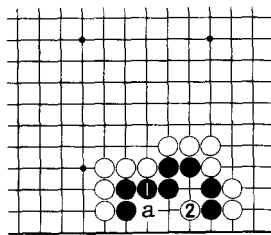
Playing atari with Black 5 at 'a' gives the same result



Failure 1

Failure 2. Powerful, but...

Black 1 here also looks like a strong play, but, on the contrary, it loses eye shape for the group. After White's push at 2 and hane at 4, Black can't get enough space in which to live.



Failure 2

Failure 2. Connection

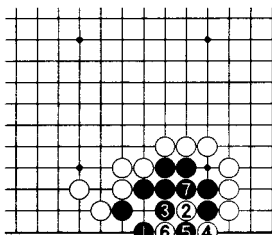
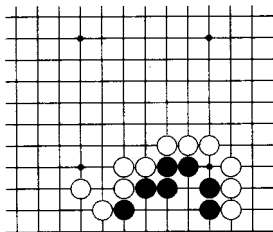
With the connection at 1 Black seems to really be putting up a fight, but White has the belly attachment at 2; after that, there's nothing Black can do.

In addition, moves like stepping down with Black 1 to 'a' are also met by this attachment, leading quickly to a dead group.

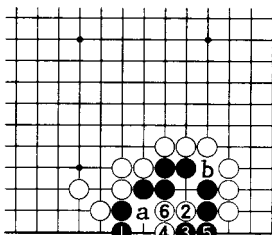
Pattern 15

Black to play and live

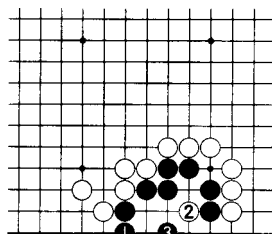
The problem here is what type of connection to use to protect the black stone on the left side. The way Black manages to live is clever but there are also some sophisticated plays in the failure diagrams.



Solution 1



Failure 1



Failure 2

Solution. Open connection

The open connection of Black 1 is very resilient. Black answers the attachment at White 2 by blocking at 3, and White then connects under at 4. Black, however, is prepared with the throw-in at 5, and answers White 6 by filling in a liberty at 7, capturing White in shortage of liberties. It's not even necessary to fight a ko.

Failure 1. Descent

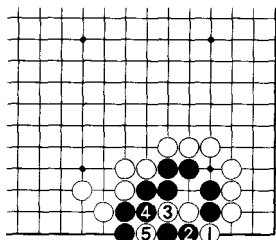
This diagram considers the interesting variation involving Black's descent to 1 here. First White will attach at 2, and then, if

Black answers with the hane at 3, White 4 and 6 kill him. After this, if Black 'a', White 'b'.

Failure 2. Strongest

After Black 1 and White 2, the jump to Black 3 provides the strongest resistance. The question now is whether or not Black can live.

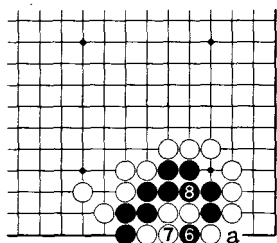
This is a variation of a failure, but this is probably the highlight of this particular pattern. Consider the following diagram.



Failure 3

Failure 3. Transformation

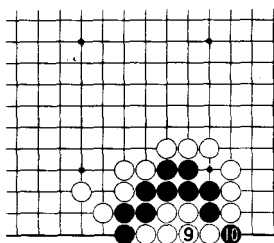
When White links under with 1, Black cuts at 2, and then answering White 3 at 4 is very clever. White is forced to capture at 5, and then...



Failure 4

Failure 4. Ko?

Black throws in at 6, forcing White to capture at 7, and then plays atari at 8. In response to this, if White connects at 'a', Black captures the four stones. Having done this doesn't necessarily make Black alive, however, as White continues with atari at 7, and Black defends above 7 to make a ko.

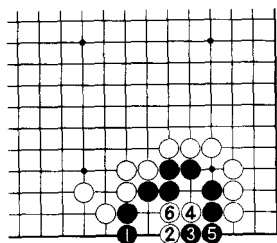


Failure 5

Failure 5. unconditionally

After the last diagram, connecting at 9 to throw away six stones instead of four is correct. After Black captures with 10, White plans to play back inside to the left of 9, killing the black group unconditionally.

The conclusion is that the jump to Black 3 in Failure 2 is also useless as well.



Failure 6

Failure 6. The fact is...

To tell the truth, in answer to Black's descent to 1, the White placement at 2 also kills the black group. The diagonal attachment at Black 3 is met by White 4 and 6.

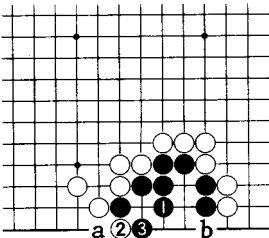
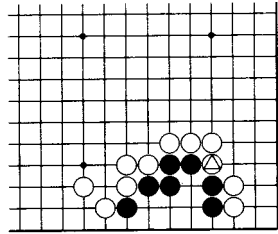
This avoids all the complicated variations we've just covered.

Pattern 16

Black to play and make a ko

White has filled in a black liberty with the marked stone, so Black's position is even weaker than before.

In this position, there is no way that he can live easily; to be realistic, he's got to settle for a ko.

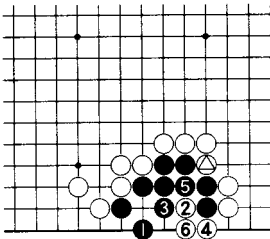


Solution

Solution. Retreating

Retreating to Black 1 is the answer. Next, Black has no choice but to resist by answering the white atari at 2 by blocking at 3 to get a ko.

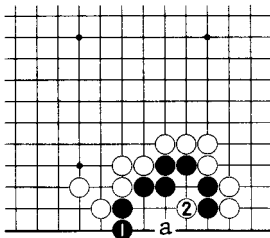
White has a local ko threat since during the fight, White can connect at 'a', forcing Black to descend to 'b', and then start the ko again.



Failure 1

Failure 1. Atari

Making the open connection at Black 1 doesn't work as well this time. That is because after White has connected underneath with 2 and 4 the two black stones are in atari. This is the sole influence of the marked white stone.



Failure 2

Failure 2. No way

There is absolutely no way Black will be able to survive if he plays the descent to 1 here. White will attach at 2, and now there is probably no need to explain why the black group is dead. White could also make the placement at 'a' instead of 2.

Part Nine

Practical Application Problems The Star Point and the 3-3 Point

Pattern 1

The large-knight move (1)

Black has defended against the white small-knight approach move by making the large-knight move extension. Next, a black enclosure move at 'a' is bib, so in this position White may even enter right away at 1.

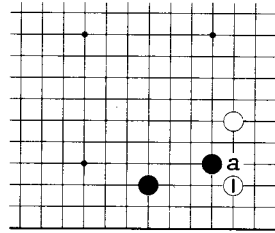


Diagram 1. Alive in sente

Ordinarily, Black answers White 1 by blocking with 2. After crawling at White 3, the hane and connection of 5 and 7 are sente, so it's easy for White to live. Up to the exchange of White 9 for Black 10, White has managed to live in sente. After this, the joseki continues with White 'a', Black 'b',

White 'c', and Black 'd'.

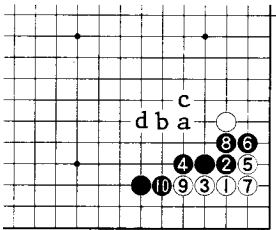


Diagram 1

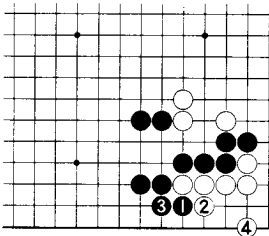


Diagram 2

Diagram 2. Black's privilege

It merely settles the corner, but at some time or other, it is Black's privilege to play the hane and connection of 1 and 3. This white position appeared on page 40, where we indicated that the jump to White 4 makes the group alive.

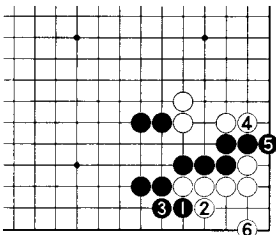


Diagram 3

Diagram 3. Before making life

In actual play, however, after Black 1 and 3, White has time to force on the other side with 4 before making life. This result is more efficient for White, so Black shouldn't play this hane and connection combination casually.

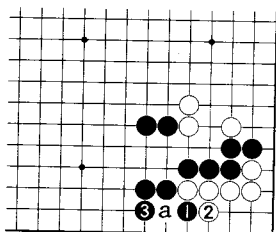


Diagram 4

Diagram 4. Open connection

This is another way for Black to force; the open connection of Black 1 and 3 is also sente. Since there are times when it's necessary for Black to make a move which has more effect on the left side than a simple connection at 'a', you should try to keep in mind the existence of this sente combination.

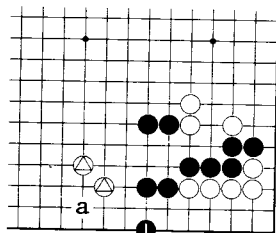


Diagram 5

Diagram 5. Jumping to the first line

If Black is trying to make a play which has an impact on the left side, then there are also times when the jump down to the first line at Black 1 will be a nice move. If we assume that White is trying to enclose territory on the left side with the marked stones, Black can play the jump to 1 then aim at invading at 'a'. The threat of this Black 1 against the corner is shown in the following diagrams.

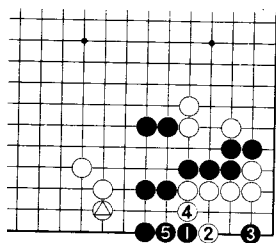


Diagram 6

Diagram 6. Sideways jump

In response to the black jump at 1, let's assume White has defended on the left with the marked stone.

In that case, the sideways jump to Black 1 becomes a troublesome move for White. Answering the attachment at White 2 with the placement at 3 is a nice move. After the continuation of White 4 and Black 5...

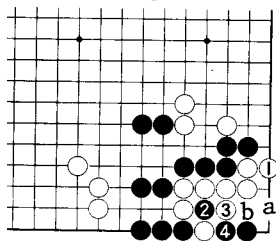


Diagram 7

Diagram 7. Ko

White will go all out by descending to 1 here. By throwing in at 2 and thrusting at 4, Black gets a ko.

If Black simply plays 2 directly at 4, after White 2, Black 'a', and White 'b' all Black can get is a seki.

Pattern 2

The large-knight move (2)

This time White doesn't have an approach move in place, and Black has defended with the large-knight extension. Even so, White has his eye on the 3-3 point. The first question is: can he live unconditionally?

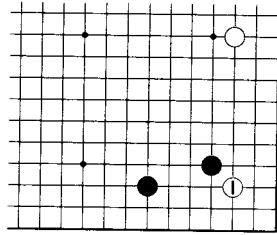


Diagram 1. Blocking

In this position, after White 1 and 3, Black can also consider blocking at 4. In answer to White 5 as well, Black makes a strong move, blocking at 6. There is still no reason for White to worry about being able to live. The sequence continues in the next diagram...

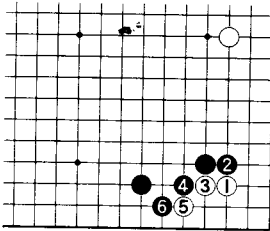


Diagram 1

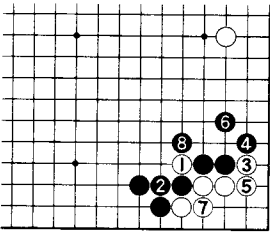


Diagram 2

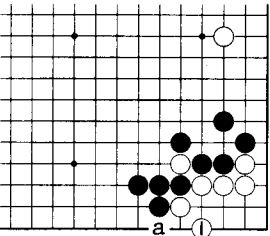


Diagram 3

Diagram 2. The effect of the cut

Inserting the cut at White 1 becomes a lifeline for the white stones. After White plays the hane and connection combination of 3 and 5, Black cannot omit defending at 6, so White can come back and connect with White 7.

It's unreasonable for Black not to capture the white stone this way with Black 8. Furthermore, instead of White 7...

Diagram 3. Open connection

White can also make the open connection at 1 here. Which way of living is better, this or the method of the previous diagram, is a matter of some debate, but they are very similar. In this particular case White must not forget that a descent to Black 'a' is sente against the corner.

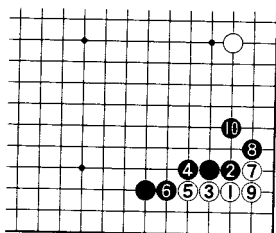


Diagram 4

Diagram 4. Extending

After White 1 to 3, extending to Black 4 is also a calm way to play. After crawling once more at 5, White lives by playing hane and connection at 7 and 9.

Black has gained solid outside influence by connecting at 10.

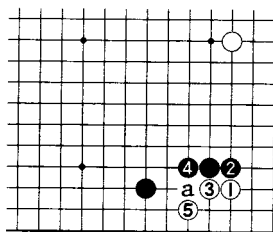


Diagram 5

Diagram 5. Diagonal move

After White 1 to Black 4, White can also make the diagonal move at 5. Compared to crawling at 'a', this loses some territory. The proof is in the diagrams which follow...

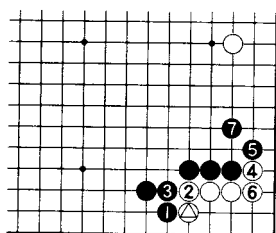


Diagram 6

Diagram 6. White is content

Continuing from the previous diagram, the diagonal attachment at Black 1 is a dubious play. White makes an empty triangle shape at 2 and is content after playing hane and connection at 4 and 6. After Diagram 4, Black can hane and connect in sente, whereas the result here is as if he simply descended to 1 after Dia 4. Letting White block with the marked stone loses points.

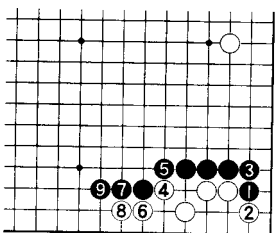


Diagram 7

Diagram 7. Hane and connect

In response to White's diagonal play, Black can safely play elsewhere. Or if he's going to play here, he can try the hane and connection of 1 and 3 to urge White to do something.

White will live with 4 on, so White and Black secure extra profit and thickness respectively.

Pattern 3

The large-knight move (3)

With his extension out under the star point, Black has established a large territorial framework. After White 1 and 3, the idea behind playing hane underneath with Black 4 is to take advantage of the marked black extension and aim to make as much territory as possible.

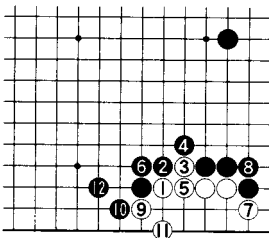
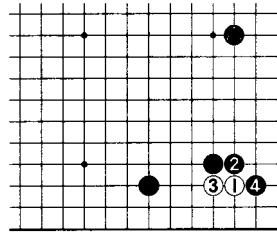


Diagram 1

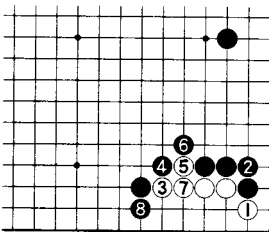


Diagram 2

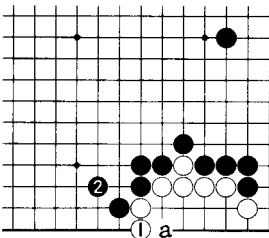


Diagram 3

Diagram 1 The jump attachment

Jumping to attach at White 1 is a nice move. White settles the shape up to 6, then continues blocking in the corner at 7. This is the main point of this pattern.

On the left side, the hane at White 9 and open connection at 11 is good. The pattern concludes with 12.

Diagram 2 Changing the timing

After the basic pattern, blocking immediately at White 1 is dubious. If you wonder why, it's because after White 3 to 7, Black is permitted to make the strong move at 8 here. If White hadn't already exchanged White 1 for Black 2, White would still have the possibility of cutting at 2, so descending at Black 8 would be unreasonable.

Diagram 3. Descent

This is near the end of Diagram 1. Instead of 'a', White has descended to 1 here, but in this position it leaves a problem behind for the endgame. We'll investigate this in the diagrams which follow.

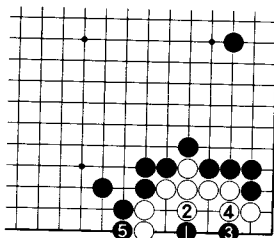


Diagram 4

Diagram 4. The aji of the placement

The aji of the placement at Black 1 is left behind. When White plays 2, the jump to Black 3 is a nice move. Black then answers White 4 at 5, aiming to bully the white group. How should White defend at this point?

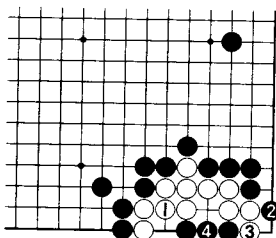


Diagram 5

Diagram 5. Sudden death

Should White try to hang on to his two stones, things become serious. When Black plays hane at 2 and White answers at 3, the connection at Black 4 means sudden death. White has no choice but to throw in with 3 at 4, but even so this is an unexpected disaster.

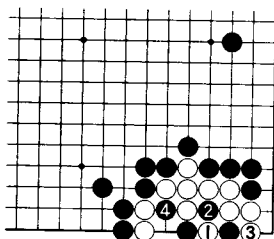


Diagram 6

Diagram 6. Giving up two stones

Continuing from Diagram 4, the throw-in at White 1 is the best response. Black is allowed to capture a stone at 2, and White blocks at 3. With 4, Black can capture two stones, but since it's White's turn to play, he has kept his losses to a minimum. At any rate, leaving behind the loss of these two stones is definitely a minus for White.

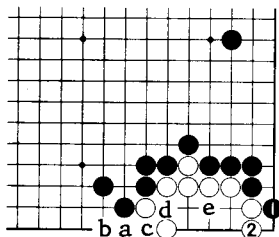


Diagram 7

Diagram 7. Black's sente moves

This time White has made the open connection. Black 1 is met by the descent to White 2. In this position, both the descent to Black 'a' and the diagonal move at 'b' have an effect on his group, so White must be careful. If White plays elsewhere after Black 'b', Black has the follow-up of Black 'c', White 'd', Black 'e'.

Pattern 4

The small-knight move (1)

Black has answered White's small-knight approach move with a small-knight extension. If at some point White enters the corner at the 3-3 point, how does he go about living? Compared to the large-knight move extension, this is a bit cramped.

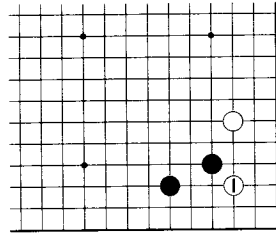


Diagram 1. Hane and connection

After White 1 and Black 2, White must immediately play the hane and connection of 3 and 5. When Black plays 6, sliding to White 7 is also important. There are now two ways that Black can defend.

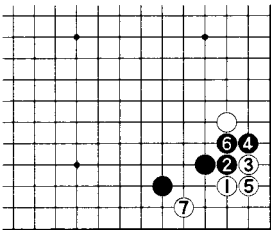


Diagram 1

Diagram 2. Blocking

If Black blocks at 1, White lives by playing 2 and then connecting at 4.

The knight-move connection at Black 5 is a very efficient way of defending.

If White neglects playing the connection at 4, it goes without saying that Black 'a' kills him (See page 112.)

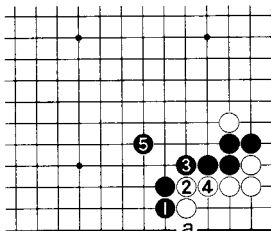


Diagram 2

Diagram 3. From above

After White has made the knight's move slide, blocking on top at Black 1 is a thick move. White must now, without fail, crawl to 2. If Black answers this by blocking at 3, White can force at 4, living in sente.

Comparing Black's thickness here with that of the previous diagram each has its merits and demerits.

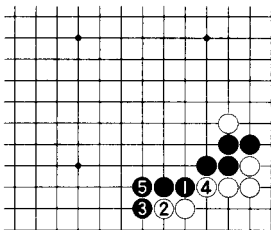


Diagram 3

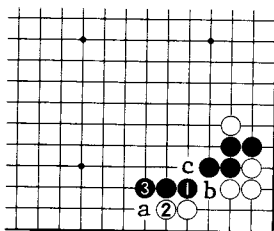


Diagram 4

Diagram 4. Calm

After Black 1 and White 2, simply extending to Black 3 is a calm answer. After this, if Black blocks at 'a' and White plays 'b', we simply return to the previous pattern, but since creating a cutting point at 'c' can be considered a minus, Black decides to hold the block at 'a' in reserve.

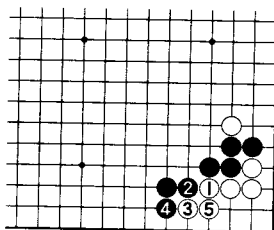


Diagram 5

Diagram 5. Cramped

This diagram goes back to the point just after White has played the hane and connection. At this stage, crawling at 1 isn't very good. When Black plays 2, White has to play hane and connection at 3 and 5. Compared to the other diagrams we've seen so far, White's position is *very* cramped.

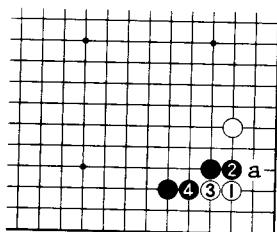


Diagram 6

Diagram 6. Dubious

After White 1 and Black 2, crawling to 3 without first playing the hane and connection is also bad. Black blocks at 4, and after this, if White plays the hane and connection at 'a' this reverts to the last diagram, a position which has already been shown to be unsatisfactory for White.

Also, instead of Black 4...

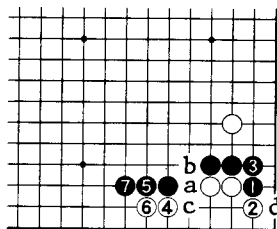


Diagram 7

Diagram 7. Black is thick

Black can play the highly effective hane and connection underneath White's stones. The attachment at White 4 is a tesuji answer, but Black defends with 5 and 7, getting very thick outside influence.

If White plays 4 at 'a', Black 'b' and then White 4, making a two-step hane at Black 6 is a nice answer. Also, note that if Black plays 5 at 6, White answers at 'c', and after Black 5, White 'd', the aji of a white play at 'b' remains.

Pattern 5

The small-knight move (2)

This is the case where White has entered single-handedly at the 3-3 point. Unless the position is particularly favorable for Black on the outside, White can still get a ko. Depending on the situation, however, it's also possible for Black to kill him outright, so White has to be careful.

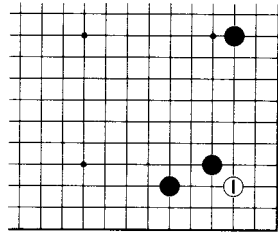


Diagram 1. Open connection

In this position, after White 1 and Black 2, White has played a hane at 3, then made the open connection at 5. How it goes after this depends on how Black, after giving the outside situation considerable thought, decides he wants to proceed.

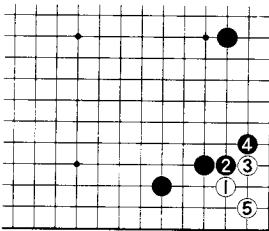


Diagram 1

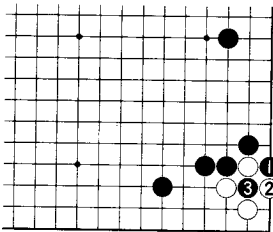


Diagram 2

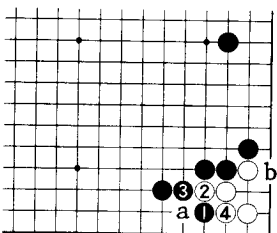


Diagram 3

Diagram 2. A ko fight

After the last diagram, normally Black simply plays atari at 1. White of course must defend by blocking at 2 to start a ko. The ko fight begins with the black capture at 3. This is the most likely result in this pattern.

Diagram 3. *Jumping*

After White has made the open connection, a black jump to 1 indicates that Black has decided to go all out to capture the white stones. When White plays 2 and Black blocks at 3, however, White can defend at 4; and after Black 'a' and White 'b', White is alive.

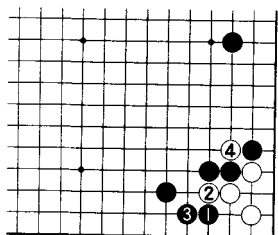


Diagram 4

Diagram 4. Reckless

If Black intends to try and kill the White group outright, then after Black 1 and White 2, he must pull back at 4. White can cut at 4, however, creating a lot of bad aji. In other words, the situation on the outside has to be favorable for dealing with this cut

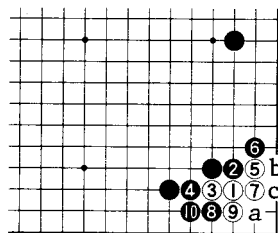


Diagram 5

Diagram 5. Dead shape

White boldly tries to live with 1 and 3. However, when White plays the hane and connection of 5 and 7, Black answers with the hane and connection at 8 and 10, and locally this is a dead shape. If White plays 7 at 'a', a ko follows after Black 'b' and White 'c' creating, at least momentarily, a dead shape.

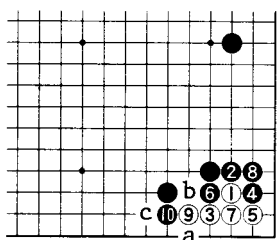


Diagram 6

Diagram 6. Depending on the outside situation

Playing White 1 and 3 here is another way of trying to make life in the corner, but after the sequence to Black 10 this is also a dead shape.

There is also a variation where White attaches with 9 at 10, Black plays 9, followed by White 'a', Black 'b' and White 'c', but this depends on the situation to the left

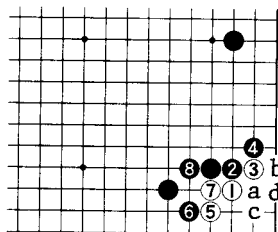


Diagram 7

Diagram 7. No way to live

After White 1 and 3, making the diagonal connection at 5 is certainly a tenacious way of playing, but there's no way to get unconditional life. After Black 8, if White connects at 'a', Black kills him with b'. Consequently, White will, as you would expect, make the open connection at 'c'; he is then forced to answer Black b' at 'd' to make a ko.

Pattern 6

One-space jump (1)

In this position Black has answered White's small-knight approach move with a one-space jump. If White invades now at the 3-3 point, how do you think things will end? Assume that Black has an extension in place on the left side.

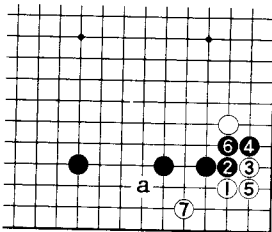
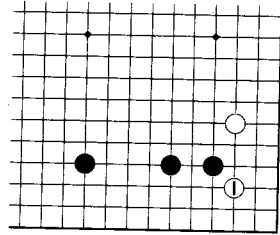


Diagram 1

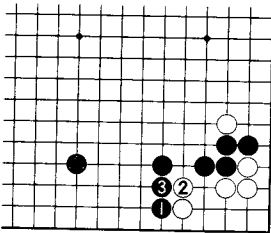


Diagram 2

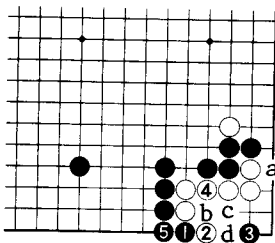


Diagram 3

Diagram 1. The slide

After White 1 and Black 2, White must immediately play the hane and connection of 3 and 5. When Black plays 6, White has no choice in this position but to slide with the small knights move at 7.

As it stands, a white play at 'a' is big, so Black often continues as in the next diagram, to finish the position off.

Diagram 2 Attachment

Black attaches at 1, and when White plays 2, connects at 3. At this point, the marked black stone is well positioned.

Moreover, the white stones in the corner aren't completely alive. White can't really leave the corner as it is and play elsewhere.

Diagram 3. A ko remains

This is the position when White plays elsewhere after the previous diagram. The fact that Black can play the hane at 1 and placement at 3 was mentioned earlier. Black answers White 4 by connecting at 5, and after this the sequence White 'a', Black 'b', White 'c', and Black 'd' creates a ko.

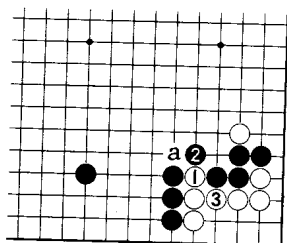


Diagram 4

Diagram 4. Alive

Continuing after Diagram 2, playing White 1 to create a weak point in the black shape, then connecting at 3, leaves White perfectly alive. After this, a black connection at 'a' is tight.

White can also consider simply playing 1 at 3, in which case Black connects at 1.

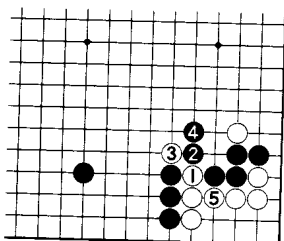


Diagram 5

Diagram 5. Cutting first

After pushing up at 1, before living, White can also first try the cut at 3. If Black extends with 4, White retreats to 5. The idea behind White 3 is to create some aji.

You should also be aware of the variation in the following diagram, which White can play instead of 5.

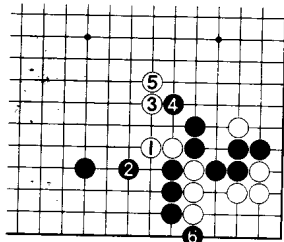


Diagram 6

Diagram 6. Forgotten

Playing White 1 and 3 and getting distracted by the fight on the outside so you forget to live in the corner is terrible. For example, after playing something like 4 to take sente, Black can come back and play the hane at 6, killing the corner.

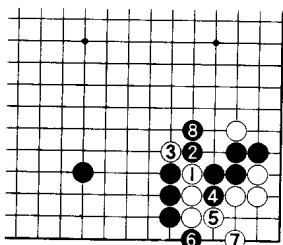


Diagram 7

Diagram 7. Forcing move

After White has played 1 and cut at 3, Black could also first play 4 and 6 to settle things. Since White is forced to answer at 7, Black can force this far before playing 8. The white stones in the corner are still not perfectly safe.

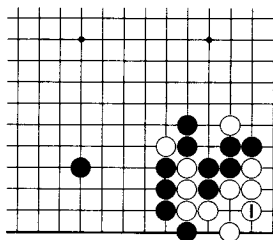


Diagram 8

Diagram 8. A question of territory

After the last diagram, White adds one more stone, making an eye at 1 and bringing things to a stop.

What merit is there in the way Black has played here? Compared to Diagram 5, Black can boast that he has reduced White's territory.

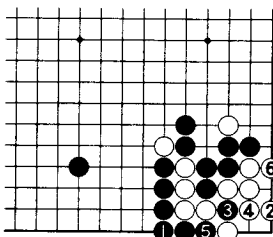


Diagram 9

Diagram 9. Omission

This is the case where White has omitted the final play at 1 in Diagram 8.

Connecting along the bottom at Black 1 is a good move. White's only answer is at 2, but after Black 3 and 5, White can't afford to connect and save his stones, so when he plays 6 in order to live, Black captures four stones in sente.

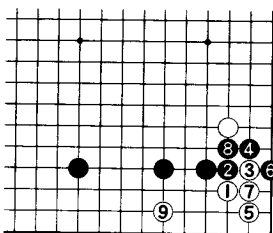


Diagram 10

Diagram 10. Stretching your legs

After White 1 to Black 4, White can also make the open connection at 5. He's not really trying to start a ko, but instead will answer Black 6 by connecting at 7. The whole point of playing White 5 is so that when Black plays 8, White can slide all the way to 9.

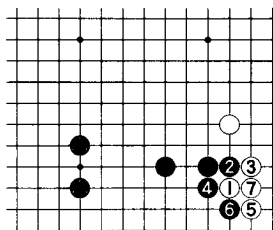


Diagram 11

Diagram 11. Compromise

It may be unnecessary to add this, but when Black has a position like the one-space jump with the marked black stones on the left and wants to safeguard his territory, he will compromise after White 1 and 3 by playing Black 4 and 6.

Pattern 7

One-space jump (2)

Black's diagonal attachment has been added to the position, but there is still aji remaining in the corner.

White 1 is the vital point. After this there are a large number of possibilities.

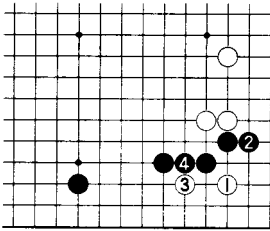
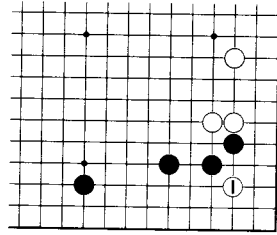


Diagram 1

Diagram 1. Interception

First let's look at the result of Black's blocking the stone off from the outside with 2. This allows White to live in the corner. Black intends to build thickness.

Black answers White's peep at 3 by connecting at 4. After this, White has more than one way to settle his group.

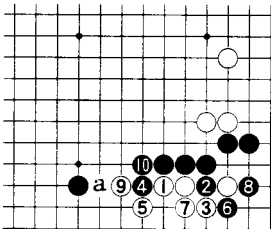


Diagram 2

Diagram 2. Crawling

Continuing from the previous diagram, crawling at 1 is usual. After Black 2 and 4, if White plays a hane at 5, Black can insert the cut at 6. When Black captures a stone at 8, White lays waste to the left side.

White could probably also play 9 at 'a'.

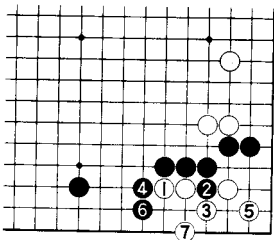


Diagram 3

Diagram 3. Saving the corner

After White 1 to Black 4, if White wants to save the corner, he plays the open connection at 5. Answering Black 6 with the open connection at 7 makes good shape.

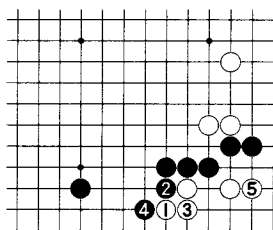


Diagram 4

Diagram 4. Diagonal play

Instead of crawling to 1 in Diagram 2, White can also make the diagonal play at 1 here. If Black settles things with 2 and 4, White plays 5 and is alive.

One can't say whether living like this or living as in the previous diagram is better.

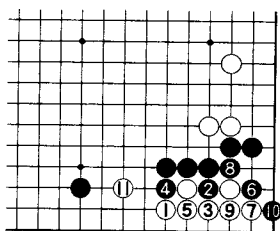


Diagram 5

Diagram 5. A black mistake

It's also possible for Black, if he chooses, to respond to White 1 with the sequence from 2 to 10, threatening White's eye space. If White answers by sliding with the small knights move to 11, however, he will live easily, and Black's attempt to take away his eyes will probably fail.

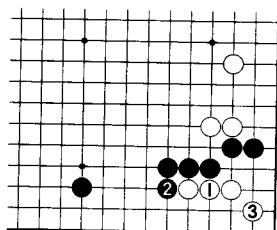


Diagram 6

Diagram 6. Connecting

Going back again to the position as it was in Diagram 1, White can also aim to live by connecting at 1 here. When Black blocks at 2, the diagonal move at 3 is the vital point for living.

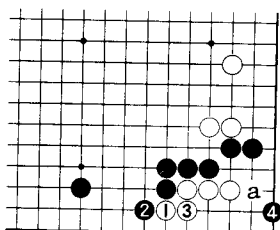


Diagram 7

Diagram 7. Dangerous

Playing hane and connection at 1 and 3 here, instead of 3 in the previous diagram, is dangerous. When Black makes the monkey jump to 4, White can no longer get enough eye space.

Also, White 1 at 'a' is answered by a black hane at 3, creating a dead shape.

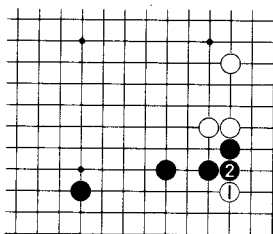


Diagram 8

Diagram 8. The empty triangle

Going back to the very beginning, answering White 1 by making the empty triangle with Black 2 makes clumsy shape, but living is going to be difficult for White, so it can be effective in some situations.

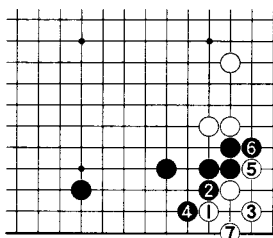


Diagram 9

Diagram 9. Alive

Continuing from the previous diagram, by making the diagonal play at 3, White manages to live. It is, of course, unavoidable that the white position above is made thin in the process. Black 2 to 7 form one possible pattern.

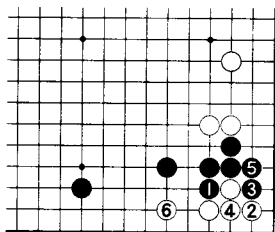


Diagram 10

Diagram 10. It won't die

After Black 1 and White 2, even if Black tries to take away his eye shape with 3 and 5, these stones are just not going to be that easy to kill. White jumps to 6, so trying to capture this group will probably be unreasonable.

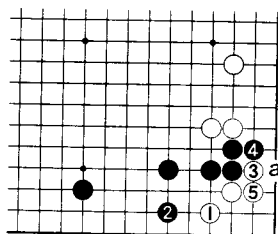


Diagram 11

Diagram 11. Dead shape, but...

In this position, jumping to 2 is a powerful response to Black 1. However; the hane and connection of 3 and 5 enable White to live unconditionally. Locally, Black 'a' gives White a dead shape, but it is not so easy for Black to capture the corner stones. (See Diagrams 5 to 7 on page 145.)

Pattern 8

One-space jump (3)

Here White has leapt single-handedly inside a black formation consisting of a one-space jump and an extension to just under the star-point. It's a close thing, but somehow or another White can aim to live.

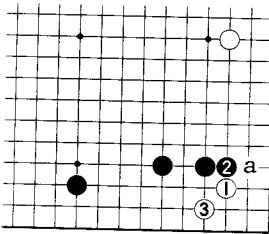
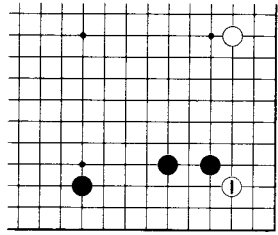


Diagram 1

Diagram 1. Diagonal move

White 1 is met by Black 2. In this position, continuing with the hane and connection at 'a' isn't sente, so White must quietly make the diagonal play at 3. After this, Black's methods of playing diverge.

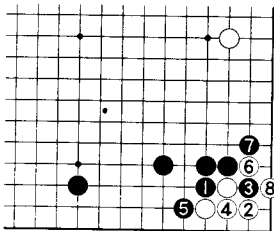


Diagram 2

Diagram 2. A doubtful atari

Settling the shape with Black 1 is one pattern. However, when White plays 2, the black atari at 3 becomes a dubious play. After Black 5, White will live by cutting and capturing with 6 and 8.

If you compare this result to the one in the next diagram you'll be able to see why Black 3 is dubious.

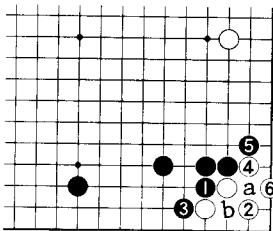


Diagram 3

Diagram 3. A simple block

After Black 1 and White 2, it's better simply to block at 3. Then after White 4 and Black 5, it's necessary for White to add a move at 6. It should be easy to see that in this position having exchanged Black 'a' for White 'b' doesn't gain anything for Black.

It isn't absolutely necessary, however, for White to play 6.

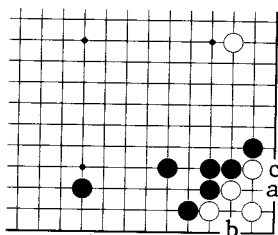


Diagram 4

Diagram 4. Leaving ko behind

White will sometimes omit playing either 'a' or 'b', switching elsewhere instead. White intends to answer Black 'c' at 'a'.

If this is not to Black's liking, then it's all right for him simply to play as in diagram 2 to get sente.

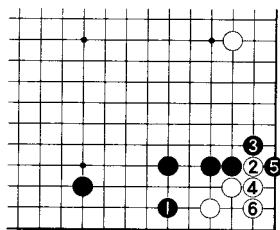


Diagram 5

Diagram 5. For the time being

When White makes the diagonal play, jumping down to Black 1 turns out to be a good way of defending. In response, the hane and connection of White 2 and 4 make the group alive, at least temporarily. A black hane at 5 is answered at White 6. Continuing in the next diagram...

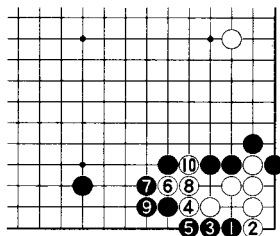


Diagram 6

Diagram 6. Ruination

If Black is going to continue to try and capture the White group, he may make the placement at Black 1, but after he connects underneath with 3 and 5 his position is thin. White can counterattack at 6 and when he pushes out at 10, the attack ends in the ruin of Black's position.

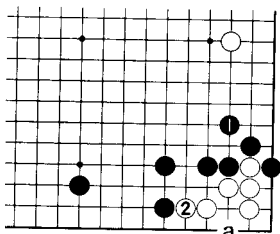


Diagram 7

This variation applies to Diagram 11 of the previous pattern as well.

Diagram 7. The proper play

After Diagram 5, the open connection at Black 1 here is the proper move. Since this time the black attack at 'a' will be effective, White also must insert a move at 2.

Pattern 9

One-space jump plus a diagonal play

Black has defended the corner further, with the diagonal move in addition to the one-space jump. White 1 aims at whatever aji is present in the corner, but, as you would expect, there doesn't seem to be any way to live directly and unconditionally.

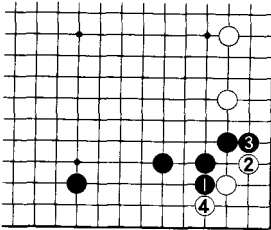
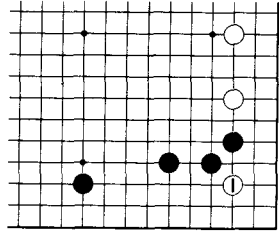


Diagram 1

Diagram 2. Steady

Black 1 is the most solid defense, but in this position the diagonal move of White 2 is sente, so White can then play a hane at 4 and hope to cope.

Black's response to 4 requires some consideration.

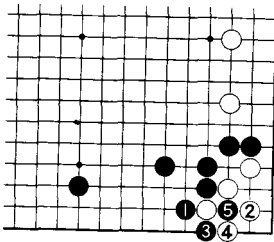


Diagram 2

Diagram 2. Ko

If Black blocks at 1, White makes the open connection at 2, and answers Black 3 by blocking at 4 to get a ko.

If White connects with 2 at 5, needless to say, Black plays a hane at 3, killing the group.

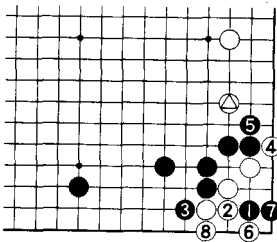


Diagram 3

Diagram 3. Placement at the vital point

As soon as White plays the hane, the peep at Black 1 becomes a strong move. After forcing White to connect at 2, Black blocks at 3. At this point the group is dead locally, but note that due to the position of the marked white stone above, White's hane at 4 is sente. After White 8...

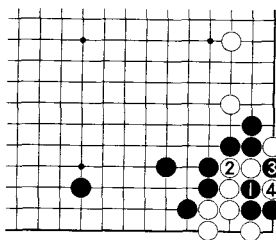


Diagram 4

Diagram 4. Ko remains

Black has room to play 1 and 3, so the result is a ko. Of course, Black only plays 1 and 3 after making sure he has more ko threats. When Black is the one with fewer ko threats, this sequence should be postponed.

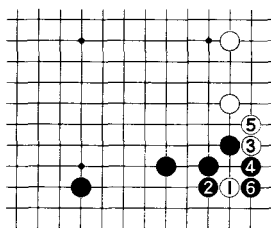


Diagram 5

Diagram 5. Profit in sente

After Black 1 and White 2, if White attacks directly he can get a ko, but when White loses the ko fight, his loss from going inside is not small. Consequently, when he is not confident he can win the ko, he can consider attaching at 3, aiming to gain a little profit. If Black plays 4, White 5 is sente.

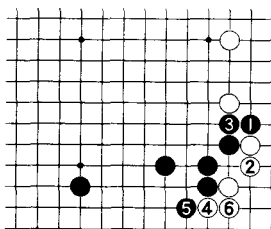


Diagram 6

Diagram 6. White is alive

When White attaches, blocking on the outside with Black 1 is a way of allowing White to live on the inside. After the hane and connection of 4 and 6, White is unconditionally alive. Living in the corner is, after all, quite large, so in most cases blocking with 1 is a loss for Black.

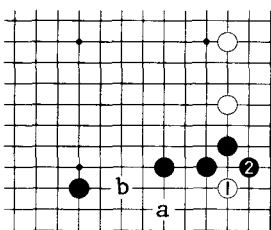


Diagram 7

Diagram 7. Leaving some aji

In answer to White 1, Black 2 can be considered the strongest defense. After this, White won't look for a way to simply live in the corner; rather, he'll try to use the aji of a white play at 'a' or 'b'.

What happens will depend on the neighboring positions, so we can't give a conclusion based solely on the corner.

Pattern 10

Single-handed

When Black has extended on both wings from the star point, entering single-handedly at the 3-3 point is only common sense. For example, should White make an approach move with 1 at 'a', he gets attacked with Black 'b', White 'c' and Black 'd'.

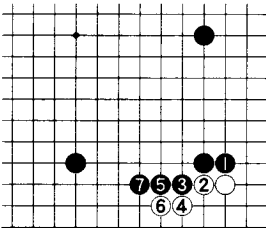
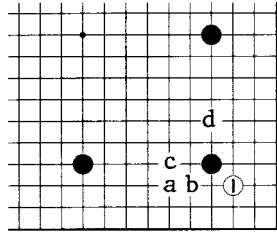


Diagram 1

Diagram 1. From the wide side

In response to the white play on the 3-3 point, the general rule is for Black to block on the side where his territorial framework is the wider. If we assume for now that the right side is the wider, then Black would block at 1 here. When White extends to 2, Black plays a hane with 3. The moves to 7 are a commonsense sequence. To continue —

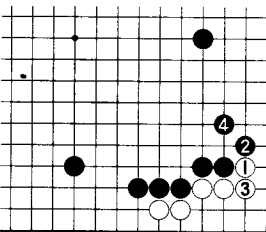


Diagram 2

Diagram 2. Joseki

At this point White settles the shape with the hane and connection of 1 and 3.

Black mustn't omit the connection at 4. This is a standard sequence, so you should learn it as a joseki.

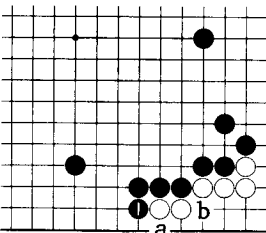


Diagram 3

Diagram 3. Gote

After the last diagram, blocking at Black 1 is not sente. White can play elsewhere, and when Black plays hane at 'a', connect at 'b' and live.

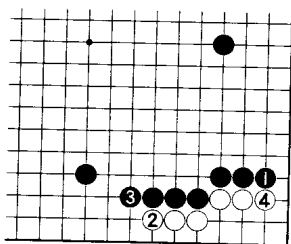


Diagram 4

Diagram 4. Forcing

White really must play the hane and connection of 1 and 3 in Diagram 2, since if he doesn't, Black will be able to play the descent to 1 here in sente. After crawling at 2 and blocking at 4 White is alive, but the difference in territory between this and Diagram 2 is substantial.

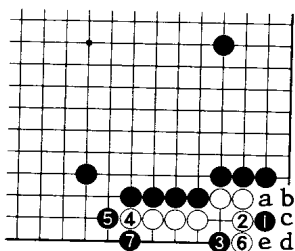


Diagram 5

Diagram 5. A life and death problem

If White plays elsewhere again with White 4 in Diagram 4, this shape turns into a life and death problem. It's Black's turn to play, so what is the result?

After Black 1 and White 2, the placement of Black 3 is a good move. After the sequence to Black 7, White isn't able to capture Black with White 'a', Black 'b', White 'c', Black 'd', and White 'e'.

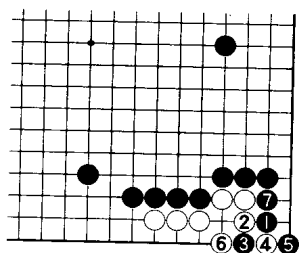


Diagram 6

Diagram 6. Ko

Black 3 is a mistake here. The throw-in at White 4 becomes a nice move, so this becomes a ko. If White uses 4 to block at 6, Black connects at 4 and kills the group outright

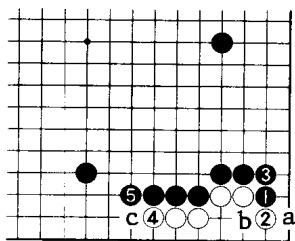


Diagram 7

Diagram 7. Large

Instead of the descent, the hane and connection of Black 1 and 3 here is also very big. After White crawls at 4 he can play elsewhere, but Black will later be able to force with Black 'a', White 'b', Black 'c'.

In either case, White must simply not neglect playing the hane and connection shown in diagram 2.

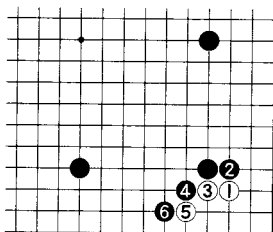


Diagram 8

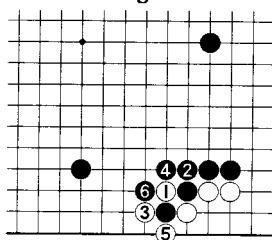


Diagram 9
7: connects

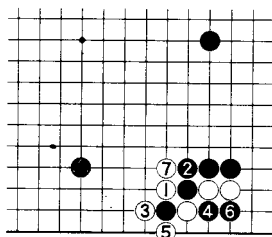


Diagram 10

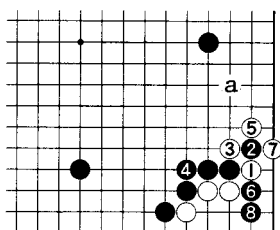


Diagram 11

Diagram 8. Two-step hane

This diagram and those that follow aren't really concerned with life, but have been added to show you a variation of the previous joseki.

After White 1 to 5, the two-step hane of Black 6 is also a powerful way to play.

Diagram 9. Sente

When White continues with 1 and 3, securing a stone, playing atari on top with Black 4 is the standard move. When White connects at 7, Black can switch elsewhere.

Comparing this to diagram 2, Black has sacrificed a stone and taken sente.

Diagram 10. Taking profit

When White grabs the stone with 1 and 3, taking the two stones in the corner with Black 4 and 6 is one more variation. However, in this result White pushes up at 7 and isolates the marked stone, so Black will no longer be able to follow a large-moyo strategy.

Diagram 11. Destroying the right side

When Black plays the two-step hane, the technique of White 1 and 3 here is a tactic for trying to destroy Black's territory on the right side. White captures a single stone with 7 and ends up sacrificing the three stones in the corner. After Black 8, White usually extends to 'a'.

Part Ten

Various Ways of Invading

Pattern 1

Under the large-knight move

Attaching at White 1, instead of playing at the 3-3 point, is less intent on invading the corner than on laying waste to the left side of Black's position. What variations arise from this position?

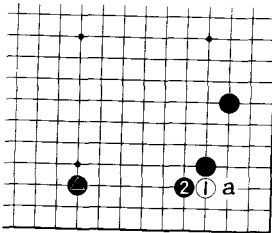
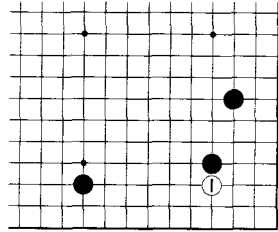


Diagram 1

Diagram 1. Blocking on the outside

Black can answer White 1 in two ways, by blocking on the inside at 'a', or on the outside with Black 2.

Black plays 2 with the idea of making territory in the direction of his marked extension. From this point, play can proceed along many different paths.

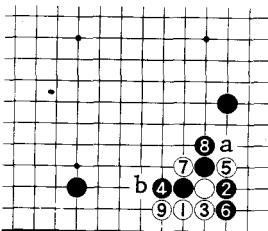


Diagram 2

Diagram 2. Vulgar play

Answering Black's block on the outside with the hane at White 1 is a light way of playing.

In response, playing atari at Black 2 and extending to 4 is somewhat vulgar. Black has no choice but to answer White 5 by blocking at 6, but White crawls with 9, and after Black 'a', White 'b', White has settled himself

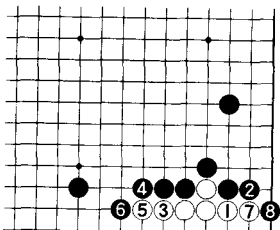


Diagram 3

Diagram 3. No way to live

Cutting with White 5 in the previous diagram is a nice move. If instead White simply turns at 1, Black will descend to 2, and now it's going to be difficult to live. Even though White struggles along after 3, with 8 Black plays the strongest counters with each move. White's space is not wide enough to secure two eyes.

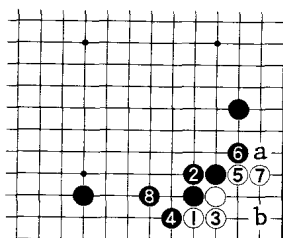


Diagram 4

Diagram 4. Simply connecting

In answer to White 1, connecting firmly at Black 2 is the proper technique. White has only limited options and will likely just connect himself at 3. Black next blocks at 4 and White seeks life with 5 and 7. Black 8 is a solid way of playing. After this, Black should not exchange 'a' for White 'b'.

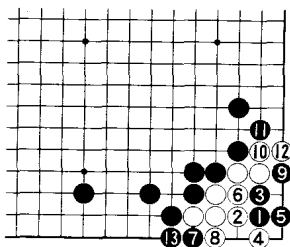


Diagram 5

Diagram 5. Leftover aji

The fact that Black is left with the placement aji at 1 was discussed earlier. Just to remind you, Black gets a one-step approach-move ko in the sequence from White 2 to Black 13.

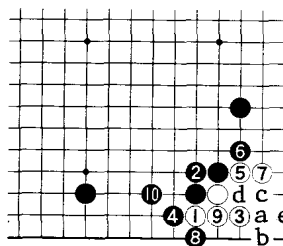


Diagram 6

Diagram 6. Open connection

After White 1 and Black 2, White can also make the open connection at 3. If, however, Black 4 is then met by White 5 and 7, this ends up pretty much the same as in Diagram 4. Later, Black 'a' through 'e' give the same result as Diagram 5.

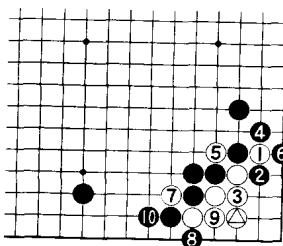


Diagram 7

Diagram 7. Going all out

Once White has played the marked stone, the position is not interesting for him unless he can play 7 in Diagram 6 at 1 here. The prerequisite is a favorable ladder, however. After Black 2 and 4, White cuts with 5 and again at 7.

Black has no choice but to pull back at Black 10. The continuation is shown in the next diagram.

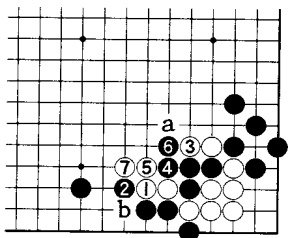


Diagram 8

Diagram 8. The ladder

The push at White 1 is a strong move. When Black plays 2, White plays atari at 3 and continues up to the turn at White 7. After this, the ladder at 'a' and cut at 'b' are miai. If the ladder is favorable for White, Black suffers a terrible loss.

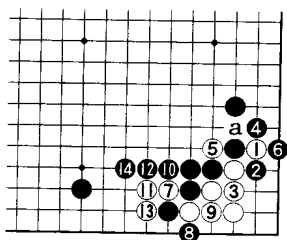


Diagram 9

Diagram 9. Outside influence

When White, seeing in advance that the ladder is favorable, makes the hane at 1, Black will most likely play the sequence to White 9 and then continue by playing atari on top with 10 to build outside influence.

Black can also consider pulling back a bit with Black 4 at 'a'.

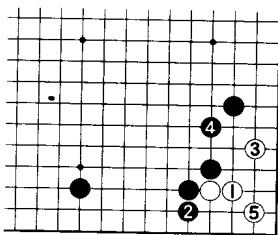


Diagram 10

Diagram 10. Drawing black into the corner

When Black blocks on the outside pulling back with White 1 keeps things simple. Black's descent to 2 is met by the knight's move at 3, and when Black plays 4, White lives by stepping down to 5.

Descending at 2 is a tight territorial way of playing, in keeping with the intent of blocking on the outside in the first place.

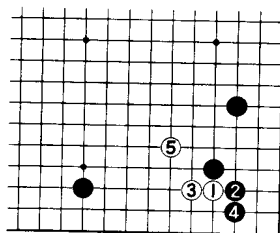


Diagram 11

Diagram 11. Blocking in the corner

Back at the beginning, blocking on the inside with Black 2 is a move which places the most value on the territory in the corner White pulls back at 3, and answers a black descent at 4 by lightly jumping out with the knight's move to 5. He is satisfied with erasing Black's potential on the left

Pattern 2

Under the small-knight move

Invading under the small knights move corner is not such a simple matter. Even though attaching at White 1 might be an effective move, Black can also put up some stubborn resistance, so White has to be careful not to make a heavy group.

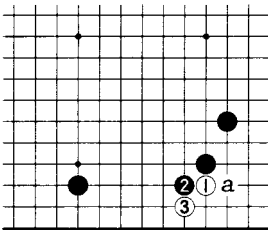
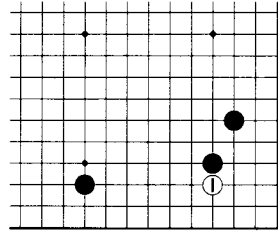


Diagram 1

Diagram 1. Blocking on the outside

Once again, Black can answer the white attachment at either 'a' or 2, but Black 2 is much more severe. Blocking on the inside at 'a' lets White pull back at 2 and easily get a light, flexible position.

In answer to Black 2, White's best answer is again the hane at 3. This time, however, Black can defend more aggressively.

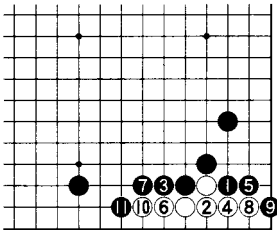


Diagram 2

Diagram 2. Pressing down

Even though its a vulgar move, Black plays atari at 1. When White plays 2, Black extends to 3. If White is going to try to live he'll continue with the sequence beginning at White 4, but White 8 is met by Black 9, and White 10 by Black 11. Black goes all out to keep White from making space for two eyes, and after this White collapses.

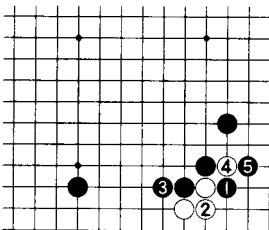


Diagram 3

Diagram 3. The white cut

After Black 1 to 3, what about cutting with White 4 here? When Black had made the large knight's move, this was effective, but in the case of the small knights move Black simply latches onto the stone at 5, ending the discussion.

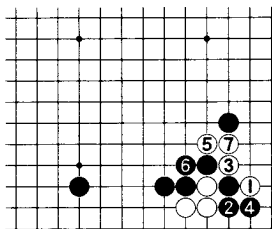


Diagram 4

Diagram 4. Variation

The attachment at White 1 here is a tesuji. Since White cannot live directly, he has to settle the position by sacrificing these stones. When Black plays 2, White cuts at 3. Black 4 is answered by breaking out with atari at 5 and 7 here. White is satisfied with having destroyed the territory on this side.

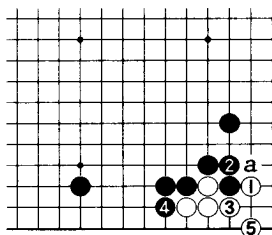


Diagram 5

Diagram 5. Alive

After White 1, if Black connects at 2 here, White can connect underneath in the corner and get life there. Black's block at 4 is met with the open connection at 5.

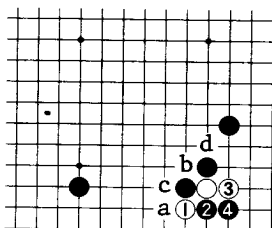


Diagram 6

Diagram 6. The second strongest move

After White 1, Black can also make the unyielding cut at 2 here. When White extends to 3, Black crawls to 4. Still, Black has to be careful about White's playing lightly in this position as well.

Note that if Black plays 4 at 'a', then White plays 'b', Black 'c', and White 4; next White has 'd', so he lives easily.

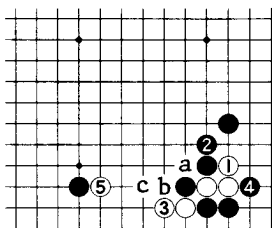


Diagram 7

Diagram 7. A nice light tesuji

Continuing from the previous diagram, White has to turn at 1. When Black answers at 2, extending quietly to White 3 is a cool response. After Black defends at 4, the attachment at White 5 is a tesuji. Since White is looking at the forcing sequence of White 'a', Black 'b', White's, he should be able to settle his group.

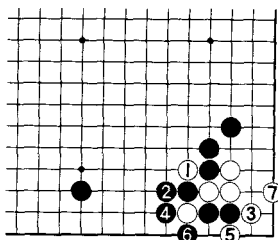


Diagram 8

Diagram 8. Alive, but...

This is a variation for White 3 in Diagram 7. After the forcing move at 1, White can just manage to live with 3, 5, and the open connection at 7. However, this result leaves Black with significant outside influence and will usually be unsatisfactory for White.

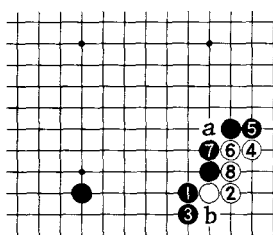


Diagram 9

Diagram 9. Struggling

Going back to the beginning, answering Black 1 by pulling back at White 2 means White is aiming to live in the corner, but his shape is heavy Black will descend to 3, and after this it's a struggle for White.

The sequence from White 4 to 8 aims at 'a'. If Black protects himself by playing at 'a' first, allowing White to play b', Black winds up with a very thick position.

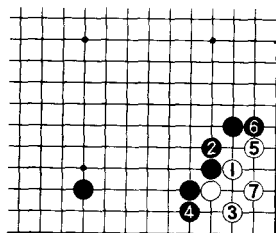


Diagram 10

Diagram 10. Living in the corner

If he's going to try and live in the corner, playing hane at White 1 here is much lighter. If Black simply pulls back at 2, White makes shape at 3. When Black next descends to 4, White lives with 5 and 7.

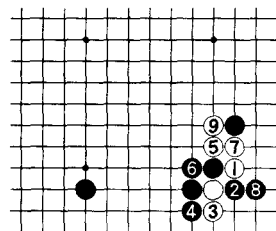


Diagram 11

Diagram 11. An exchange

If Black answers White 1 by cutting at 2, White extends once at 3 and sacrifices two stones. Next, when Black blocks at 4, the idea is to play atari with 5, connect at 7 and then cut off the black stone above.

Pattern 3

A one-space jump

Since the one-space jump opening yields a nice position, even when White intends to try and invade the corner, he usually begins with the attachment at White 1 here. If he plays 1 at the 3-3 point, Black can block at 1 and make territory out of the lower side.

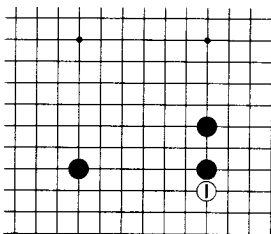


Diagram 1. Warning!

Answering White 1 by blocking on the outside with Black 2 places the most value on outside influence. At this point, as you might expect, White will play the light hane at 3, but Black has strong moves at 4 and 6, so White must be very careful

White continues by sacrificing stones at 7 and 9 and aims to live as in the next diagram.

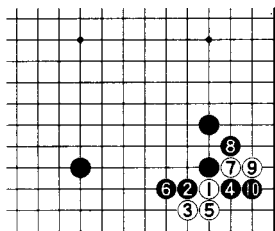


Diagram 1

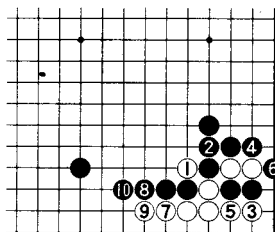


Diagram 2

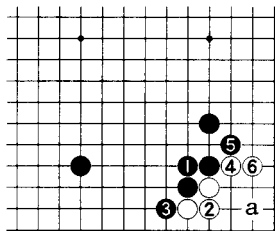


Diagram 3

Diagram 2. *Alive in sente*

The idea is to play the forcing moves of White 1, 3 and 5. Then when Black captures at 6, if White crawls with 7 and 9, he can ignore Black 10 and play elsewhere. White could also play 9 somewhere else, but allowing Black to play at 9 in sente is unpleasant.

Diagram 3. Ordinary

Connecting at Black 1 here is correct. White also has no choice but to connect at 2. After the sequence from Black 3 to White 6, the area is temporarily played out. The implications of the remaining aji of a black play at 'a' was discussed earlier. (Page 323)

Black's outside influence is stronger in the previous diagram, but in that diagram Black ended in gote.

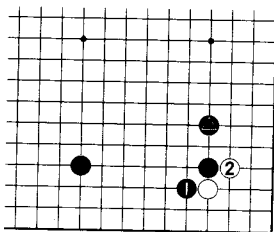


Diagram 4

Diagram 4. Counter hane

When Black has made the one-space jump, living with the counter hane at 2 here is a powerful way to play. This is because the high position of the marked black stone leaves White room to live in the corner.

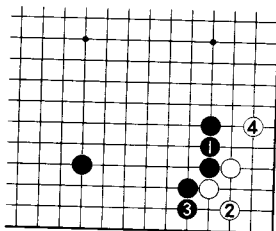


Diagram 5

Diagram 5. Easy life

Continuing from the previous diagram, if Black connects at 1, White makes the loose connection at 2. After Black 3, White has room to slide to 4, so he lives easily.

However, things will not always go this way for him

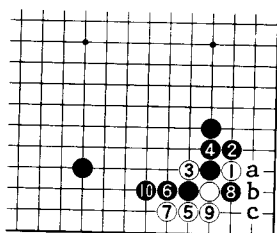


Diagram 6

Diagram 6. Stubborn

After White 1, Black 2 is stubborn. If he plays this way, White has no choice but to play atari at 3 and 5 to live.

After Black 10, the sequence continues with White 'a', Black 'b', and White 'c'. In the end, this reverts to Diagram 2

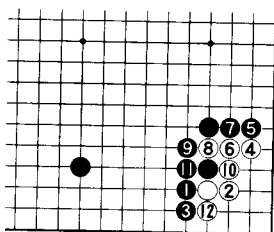


Diagram 7

Diagram 7. Enough for Black

White can also answer Black 1 at White 2. After Black 3, from White 4 to 10 are a fixed sequence. White ends with 12.

However, in most cases, Black's outside influence gives him the better of the exchange.

Pattern 4

The small-knight enclosure: attaching underneath

The attachment at White 1 is a probe. Depending on Black's answer, White will either invade the corner or erase the territory on the side.

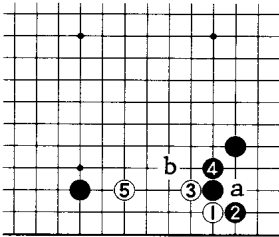
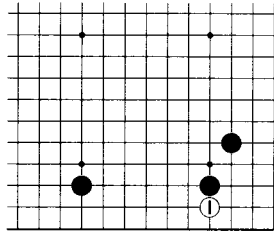


Diagram 1

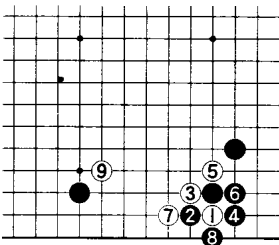


Diagram 2

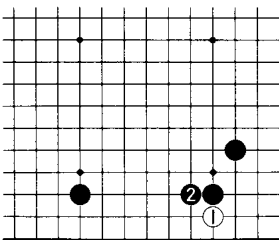


Diagram 3

Diagram 1. Blocking on the inside

By answering White 1 on the inside with Black 2, Black places the most value on the territory in the corner. As a result, White turns up with the hane at 3 and extends to 5, erasing the area on the side.

Also, if White attaches with 3 at 4, Black 'a', he can continue with 'b'. This is a standard technique for erasing territory

Diagram 2. A forcing move

Black's block on the outside aims at capturing the white stone. With the cross-cut of White 3, however, White can make some forcing moves, so Black's capture is not necessarily all that effective. After Black 4, White can play atari at 5 and 7, and then the shoulder hit at White 9 looks promising.

Diagram 3. Extending outside

Black can also extend at 2. He intends to allow White to live in the corner and make his position thick towards the outside. The variations which develop after this are an important aspect of this pattern.

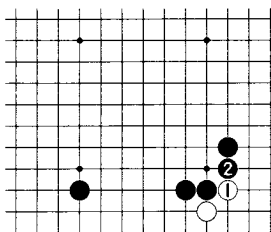


Diagram 4

Diagram 4. A bargain

After the last diagram, let's take a look at White 1 here. If Black answers at 2, he agrees to let White live in the corner. Since living isn't necessarily the biggest move available, White will keep a close eye on the situation and await an opportunity to continue.

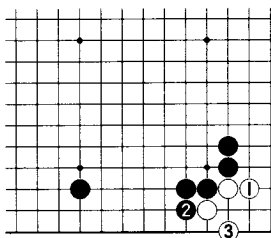


Diagram 5

Diagram 5. Alive

If you are wondering how White goes about living, he simply descends to 1 here. When Black plays 2, White makes the open connection at 3. This pattern showed up in the first volume of this set (page 70); it's an extremely efficient living shape.

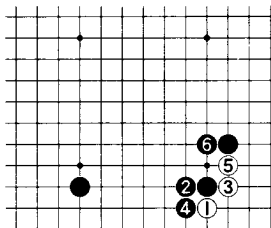


Diagram 6

Diagram 6. Showing resolve

After White 1 and the hane at 3, blocking with Black 4 here can be considered a strong move, but trying to capture White unconditionally is going to be difficult

After White 5 and Black 6...

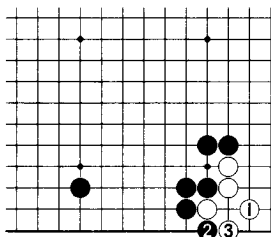


Diagram 7

Diagram 7. Ko

If White makes the open connection at 1, Black can get a ko. Black 2 is of course answered at White 3.

It's impossible to say, however, whether it's better to play this way or to allow White to live as in Diagram 5. It depends on the ko-threat situation.

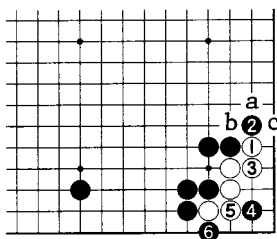


Diagram 8

Diagram 8. Dead shape

After Diagram 7, isn't there any way for White to live without playing a ko? He might try the hane and connection of 1 and 3 here, but Black will make the placement at 4, then hane at 6, and in the local context White is dead. It's a different story, however, if after this White can live by playing 'a', Black 'b', White 'c'.

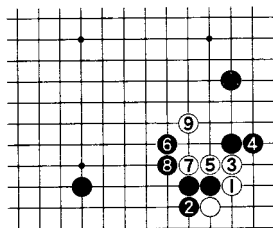


Diagram 9

Diagram 9. A temptation

If Black has an extension in the vicinity of the marked stone, after White 1 and 3, he might be tempted to descend to 4 in an attempt to capture the entire group. In actual fact, since White can make plays such as White 7 and 9, it doesn't seem that Black will be successful.

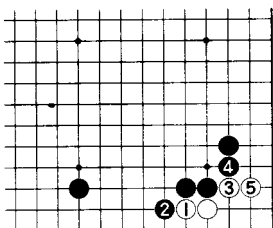


Diagram 10

Diagram 10. Black is unsatisfied

This is a variation of Diagram 3. Before playing the hane in the corner at 3, crawling once at 1i is also a strong way to play. If Black should block at 2, White can live in the corner on a much larger scale. For this reason, Black 2 becomes a problem.

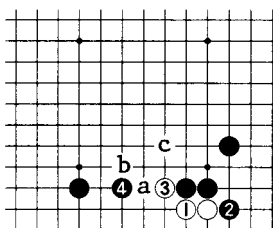


Diagram 11

Diagram 11. Attack

In answer to White 1 Black should block with 2 here. After White 3, Black makes some sort of checking extension like Black 4 and initiates an attack on the whole group. One continuation might be White 'a', Black 'b', White 'c'.

Pattern 5

The small-knight enclosure: attaching inside

Deciding that a direct invasion at 'a' is unreasonable, White probes at 1. Where he tries to invade will depend on Black's response.

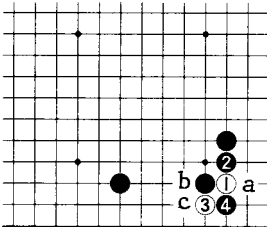
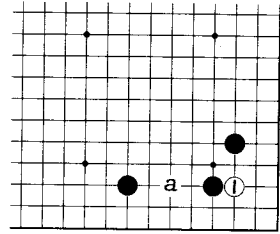


Diagram 1

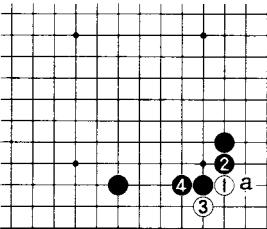


Diagram 2

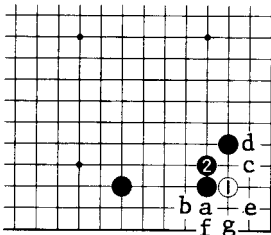


Diagram 3

Diagram 1. Forcing move

In answer to White 1, Black 2 is the tightest way of defending the corner territory.

As you would expect, there is no straightforward way of continuing in the corner, but, depending on how things go in the surrounding area, White can consider moves at 'a', 'b', or 'c'.

Diagram 2. Life remains

After White 1 to 3, extending at Black 4 places the most value on the outside territory. However, since White is left with the chance to live by descending to 'a', his stones are working well.

Diagram 3. Leaving aji behind

Answering White 1 at 2 is a strong move. As far as the aji in the corner is concerned, if a situation arises where White can play White 's', Black 'b' and White 'c', he can get a ko by continuing the sequence as indicated.

Pattern 6

The small-knight enclosure: attaching in the middle

White 1 here is also a probe. Rather than wanting to continue in the corner, White's primary aim is to invade the Black extension on the right

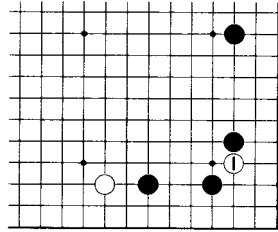


Diagram 1. Hane

Ordinarily, Black answers the attachment by blocking at 2. He could also play at 'a' or even 'b', but these are not standard ways of playing.

After Black 2, White plays the simple hane at 3 and awaits Black's answer. Black has two ways to defend.

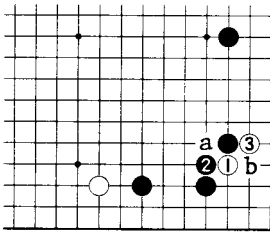


Diagram 1

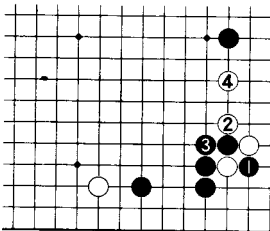


Diagram 2

Diagram 2. Invading above

With 1, Black stakes a claim on the territory in the corner. After forcing with atari at 2, White extends to 4. White has lost some points in the corner, but if you compare this to a direct invasion at 4, White can expect to have a much easier time of it here.

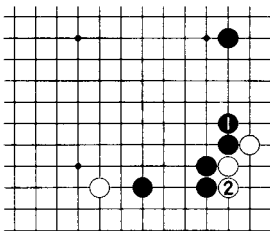


Diagram 3

Diagram 3. Placing importance on the outside

If after Diagram 1 Black extends to 1 here, he is placing the most value on building outside influence. However, that leaves White with something in the corner. In other words, if White plays at 2 he won't die.

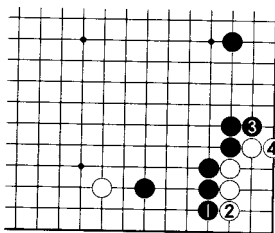


Diagram 4

Diagram 4. Ko

After the last diagram, descending to Black 1 is a calm move. After White 2 and Black 3, White descends to 4 and his invasion has succeeded. There is probably no need to explain how this shape becomes a ko.

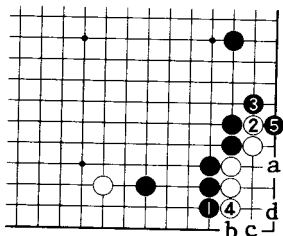


Diagram 5

Diagram 5. Suicidal

When Black descends to 1, White has to be careful. He can't simply crawl along with 2, thinking that it's sente. If he does he's committing suicide. After Black 3 and White 4, Black will play a hane at 5 and the continuation of White 'a', Black 'b', White 'c' and Black 'd' leaves the group dead.

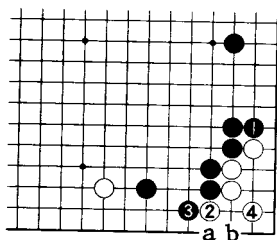


Diagram 6

Diagram 6. Ko

If Black plays 1 in the last diagram here, White does not die outright. White has the hane and open connection of 2 and 4 and is prepared to answer Black 'a' at 'b' to get a ko.

Since White cannot crawl to Black i, there's also no reason for Black to rush to play there.

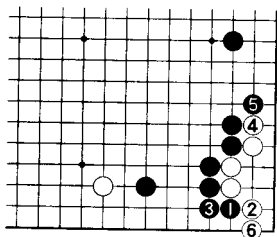


Diagram 7

Diagram 7. A major error

Playing the hane and connection of Black 1 and 3 is the worst thing Black could do. This simply helps White live. By crawling at 4 and descending to 6, White is alive. Having White live in such an arrogant manner is a terrible loss for Black

Pattern 7

The one-space jump enclosure: peep

White has peeped underneath Black's one-space jump enclosure, intending to destroy the territory underneath. Of course, Black is not limited to a single response and there are many variations.

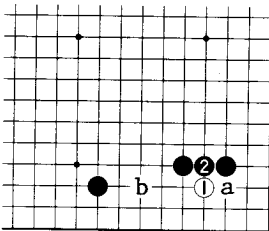
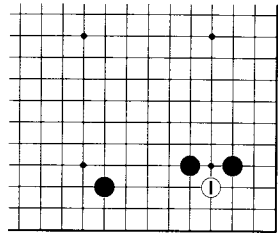


Diagram 1

Diagram 1. Connection

Connecting with Black 2 is the tightest response. White still has possibilities in the corner, but Black creates thickness to use on the upper side.

If Black plays at 'a', blocking White in the corner, White will most likely continue at 'b'.

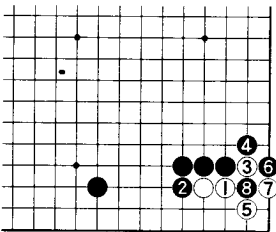


Diagram 2

Diagram 2. Ko

After the last diagram, White continues by crawling into the corner with 1. After Black 2, White plays hane and an open connection with 3 and 5. He then defends against Black 6 with White 7 to start a ko.

In actual play White will need to pick the time for White 1 very carefully, since the outcome will be determined by the presence or absence of adequate ko threats.

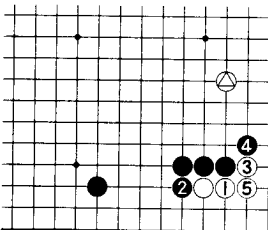


Diagram 3

Diagram 3. Reinforcements

After White 1 and Black 2, if White has an ally in the vicinity of the marked stone, he can also aim to live unconditionally with the hane and connection of White 3 and 5. In the next diagram...

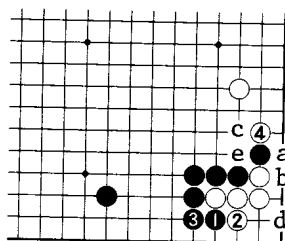


Diagram 4

Diagram 4. Pincer attachment

Continuing from the previous diagram, the hane and connection of Black 1 and 3 seem to leave the white group momentarily dead. But the pincer attachment of White 4 is a tesuji for rescuing the group. If Black now plays 'a', White answers at 'b' and after Black 'c' White lives with 'd'. If instead Black connects at 'e', White crosses under at 'a'.

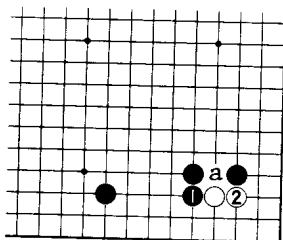


Diagram 5

Diagram 5. Blocking on the outside

The block at Black 1 also harbors some intent of trying to capture the White stone outright, but, with the defect for White to exploit at 'a', the aji is no good for Black. If Black tries to capture the group unconditionally he will only hurt himself.

If next, Black answers White 2 at 'a' this reverts to Diagram 2, but...

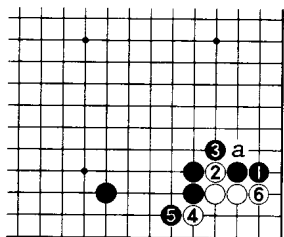


Diagram 6

Diagram 6. A weak point

Let's look at what happens if Black descends to 1 and tries to capture the whole group. After 2 and 4 White blocks at 6. Now, if Black fails to defend his weak point at 'a' the aji feels pretty bad, so...

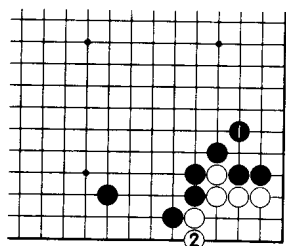


Diagram 7

Diagram 7. Ko shape

When Black defends next at 1, White is able to descend to 2 and achieve a familiar shape which is not unconditionally dead. You probably remember from before that this is a sente ko for Black.

In other words, the unyielding attitude Black displays from Diagram 5 on proves to be unsuccessful.

Pattern 8

One-space enclosure: inside attachment

The point of the attachment at 1 is not, as it might seem, to stake a direct claim on the corner. Depending on the situation, White may use it as a forcing move to accomplish another aim.

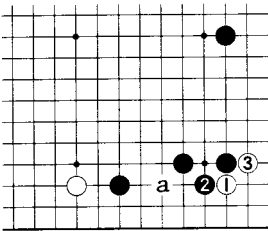
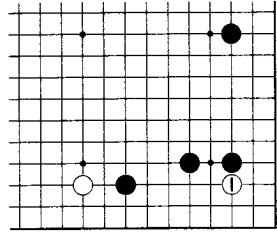


Diagram 1

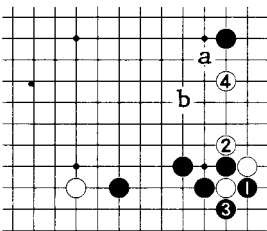


Diagram 2

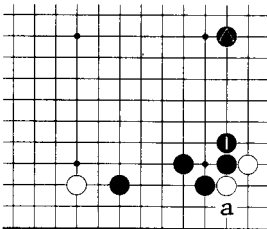


Diagram 3

Diagram 2. Play hane

Blocking with Black 2 is a fairly common-sense way of defending. At that point White may play the hane at 3, waiting to see how Black responds. This type of inside attachment also came up in the small-knight enclosure. The basic idea is that when you make this attachment you give up any plan to invade at 'a'.

Diagram 2. An easy invasion

Continuing from Diagram 1, the cut of Black 1 here is standard. White will then force with the atari at 2 and make an extension to 4. Compared with the result from a direct invasion on the right side, White should have a much easier time of it in this position. For example, even if Black should respond with the diagonal move at 'a', White can make nice shape with 'b'.

Diagram 3. Pulling back

After Diagram 1, if Black wants to continue to maximize his territorial framework, then he may pull back at 1 here. In that event, he leaves White an opportunity to live by playing at 'a'. For the time being White will likely leave things as they are and play somewhere else.

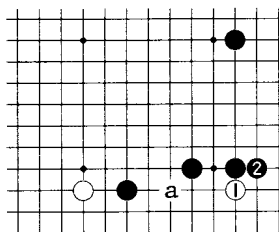


Diagram 4

Diagram 4. Remaining aji

In answer to White 1, the descent to Black 2 shows a resolute attitude. Still, this does leave some potential in the corner. It's a sure bet that White will aim to invade at 'a'. In that event White 1 becomes a forcing move which will make it easier for an invading stone at 'a'.

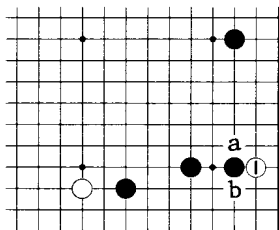


Diagram 5

Diagram 5. Attaching on the bottom

Since it has quite similar aims to the attachment on the inside, let's take a look at the bottom attachment of White 1 here.

It goes without saying that if Black pulls back to 'a', White will be able to hane on the inside and live with 'b'.

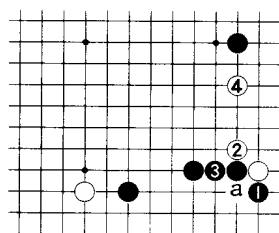


Diagram 6

Diagram 6. Laying waste

If Black blocks in the corner with 1, the hane at 2 and extension to 4 work well together.

If Black simply pulls back with 1 at 'a' to avoid giving White any help, White will invade directly at 4. In that case as well, the bottom attachment becomes a very important forcing move.

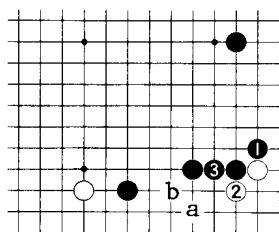


Diagram 7

Diagram 7. The target

Blocking on the outside is certainly a strong way to play, but it's somewhat greedy and leaves behind some bad aji.

Exactly what type of aji this is depends on the situation in the surrounding area, but after White 2 and Black 3, White can probably aim at moves like 'a' and 'b'.

Pattern 9

The four-space extension

Next, we'll take a look at some invasions on the side.

This pattern is concerned with the fighting after White invades Black's formation, a one-space jump enclosure and extension under the star point

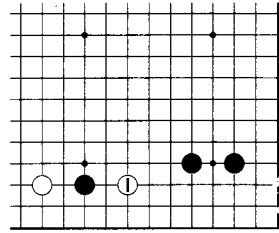


Diagram 1. Diagonal move

Notwithstanding its merits or demerits, the diagonal move at Black 2 can be considered the strongest answer to White 1. If Black merely jumps to 'a', White is left with room to connect underneath at 'b'.

After this the issue becomes how White can lightly settle himself. The knight's move at White 3 is a nice way to begin.

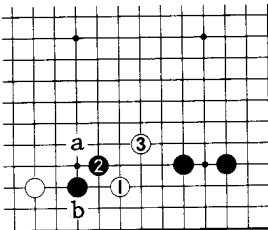


Diagram 1

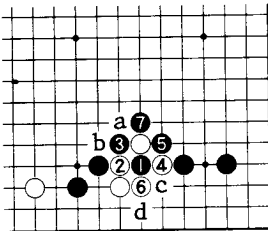


Diagram 2

Diagram 2. Cutting across the knight's move

In answer to White's knight's jump, Black continues his attack by cutting across the knight's move at 1. White 4, embracing the black stone, is met by the counter atari at Black 5 and 7, aiming to seal White inside.

Note that if Black plays 5 at 6, White 'a', Black 'b', White 'c', Black 'd' and White 5 follow, giving Black a poor result

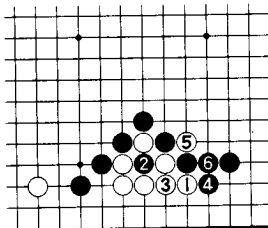


Diagram 3

Diagram 3. A necessity

To continue, a white hane at 1 is natural. After Black forces by capturing at 2, he blocks at 4. The cut at White 5 is an efficient forcing move. once you get this far, you should be able to see how White will live.

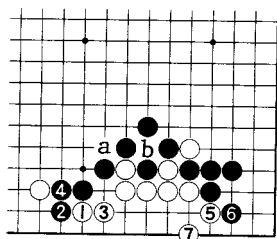


Diagram 4

Diagram 4. Arrogant

If all White wants to do is live, then by attaching and pulling back with 1 and 3 and continuing with 5 and 7 he arrogantly does so. In an actual game, however, he might well consider a more positive approach such as cutting at 'a', forcing Black to connect at 'b', before making life.

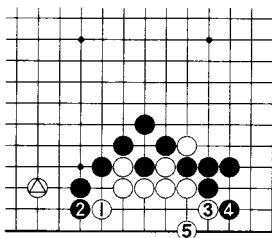


Diagram 5

Diagram 5. Small life

If White wants to live, while minimizing the damage to the marked white stone, he can also simply make the diagonal move at 1. If Black blocks at 2, White plays a hane at 3 and the open connection at 5 and just manages to live.

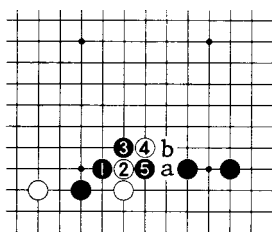


Diagram 6

Diagram 6. Even if he pushes

In the case where White simply answers Black 1 by pushing up with 2, should Black so desire he can lead things in to the same result we've seen above. He plays a hane at 3 and then answers White 4 by cutting at 5. The continuation would then be White 'a' and Black 'b'.

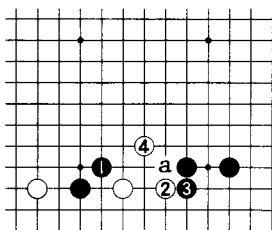


Diagram 7

Diagram 7. A different method

After Black 1, White can make a forcing move at 2 and easily escape into the center. Of course, with the exchange of White 2 for Black 3, White inevitably strengthens Black's corner.

Also, if Black is dead set on maintaining outside influence, he can consider playing Black 3 at 'a'.

Pattern 10

The giant-knight extension

Black has made a giant knight extension from his one-space enclosure. Obviously the vital point for invading is at White 1. Lets take a look at Black's attack and White's efforts to settle himself after this.

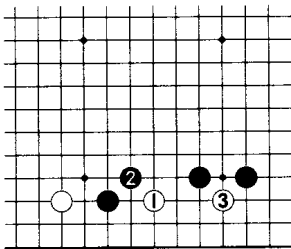
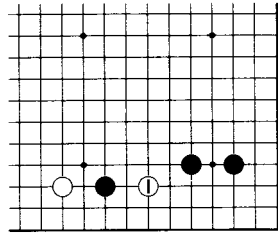


Diagram 1

Diagram 1. Blockade

The diagonal move to Black 2 is a strong move aiming to blockade the white group. The real problem for Black is not how to capture the White stones; instead, he is aiming to extend his outside influence towards the upper side.

The peep at White 3 is a light way of getting started.

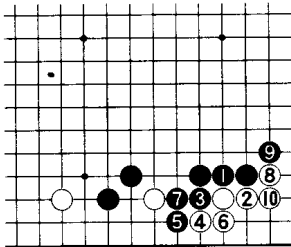


Diagram 2

Diagram 2. Into the corner

In answer to the white peep, connecting at 1 has a good feeling to it. With 2, White crawls into the corner intending to sacrifice his initial invasion stone.

The hane and connection of White 4 and 6 are forcing, and up to 10 White just manages to eke out life.

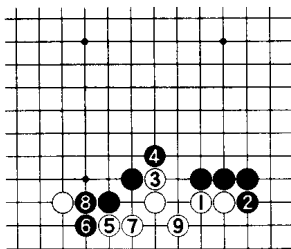


Diagram 3

Diagram 3. A choice

After the peep, it's also possible for White to pull back and aim to live as shown here. After Black 2, White gets room enough to live with White 3, 5, and 7. The sequence ends with White 9.

Of the two, however, White will prefer the previous diagram.

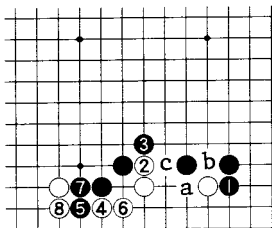


Diagram 4

Diagram 4. A strong move

After the block at 1, Black isn't planning to answer White 'a' at b'. Instead, he intends to extend to 'c', a strong move. Still, the gap at 'b' creates some bad aji, and White will try to take advantage of this as he attempts to settle himself.

White struggles on with White 2, the attachment and pull back of 4 and 6, and White 8.

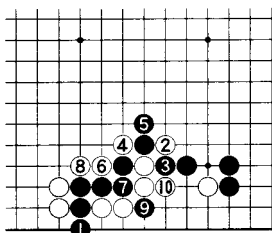


Diagram 5

Diagram 5. Counterattack

If Black continues by descending to 1, White counterattacks with 2 and 4. After Black 5, White blockades Black with 6 and 8. Black has no choice but to cut at 9, but White extends to 10 and these stones cannot be captured. Continuing in Diagram 6...

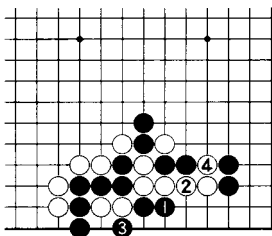


Diagram 6

Diagram 6. Break-out

Black has no choice but to live with 1 and 3, so White ends up breaking out with 4 here.

This diagram is a great success for White. For this reason, Black 1 in Diagram 5 is unreasonable. Black probably has no alternative but to allow White to connect underneath

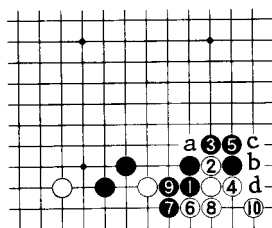


Diagram 7

Diagram 7. White is not unsatisfied

Backing up a bit, this time lets look at Black's block on the left side with 1 here. In response White has no reason to be dissatisfied with living from White 2 to 10. Comparing this to Diagram 2, the fact there is a defect in Black's position at 'a' is a minus for him

Playing White 10 at 'b', followed by Black 'c', White 'd', strengthens Black's position and is somewhat dubious.

Pattern 11

The large-knight move

This large-knight move is a fairly narrow extension from the enclosure, but even so there is room for White to invade at 1. Moreover, you will probably be surprised by how many variations there are.

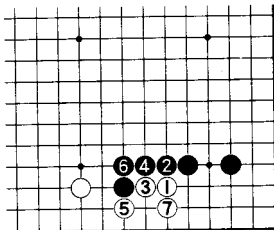
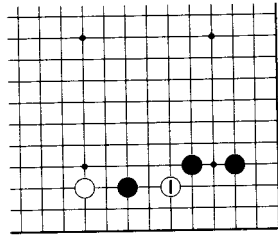


Diagram 1

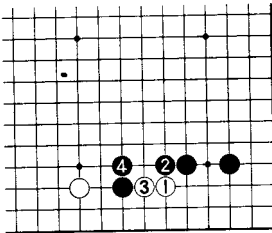


Diagram 2

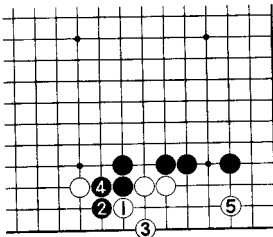


Diagram 3

Diagram 1. Linking under

If Black answers the invasion by pressing down on top with Black 2, things will stay fairly peaceful. White crosses under with 3 and 5 and achieves his aim up to 7.

At the same time, Black gets a thick shape as a result, so White needs to carefully weigh the relative merits of this exchange before he begins.

Diagram 2. Not permitted to link under

After White 1 and 3, Black stands at 4 to prevent White from connecting underneath. Obviously White must now come up with a way to live.

Diagram 3. Large-knight move

The hane and open connection of 1 and 3 give White very resilient shape. After Black 4, sliding with the large-knight move to 5 works very well. At this point the white group is alive, but let's follow along just a little bit further.

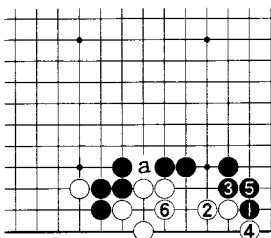


Diagram 4

Diagram 4. Alive

The attachment at Black 1 is the strongest play, but White need only pull back to 2 to be alive. White 4 is a good answer to Black 3, and when Black connects at 5, White makes an eye at 6.

Since there is still a gap in Black's outside wall at 'a', White has no reason to be dissatisfied with living in this manner

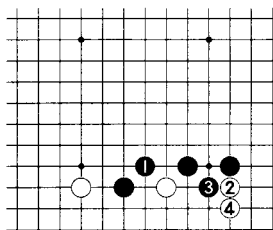


Diagram 5

Diagram 5. Diagonal move

Back at the beginning, how should White proceed if Black makes the diagonal play with 1 here? If only because the area is quite cramped, it will be quite difficult for him simply to live underneath.

The attachment at 2 is clever Black 3 is answered by descending to 4, and then...

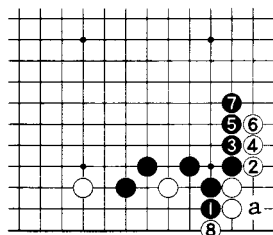


Diagram 6

Diagram 6. Light on his feet

If Black blocks with 1, White will hane at 2 and aim to live in this direction. By crawling up to 6 and then playing hane at 8, White lives. This is a great success. Playing 8 at 'a' shows a lack of resourcefulness.

Instead of Black 1...

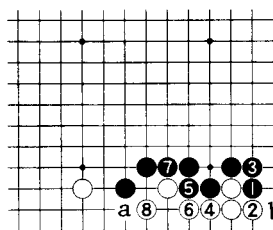


Diagram 7

Diagram 7. Still alive

Let's take a look at what happens if Black plays hane and connects at 1 and 3. After White 6, Black has to go back and connect at 7, so White makes life up to 8. If Black next blocks at 'a', White 'b'.

Pattern 12

The large-knight enclosure

Lastly, let's take a look at the large knight's move enclosure with a three-space extension. White 1 is a powerful invasion, but how does he proceed after Black makes the diagonal move at 2?

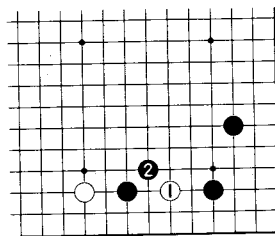


Diagram 1. Flexibility

In answer to Black's diagonal move, simply trying to escape with White 'a' or 'b' is heavy. Playing in with White 1, near the base of the large-knight enclosure is a more flexible way of handling things.

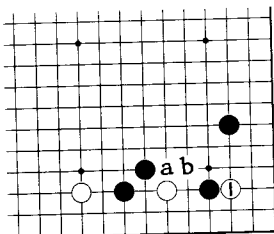


Diagram 1

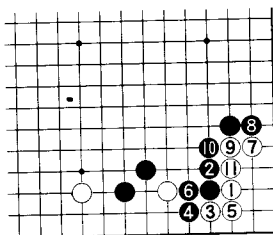


Diagram 2

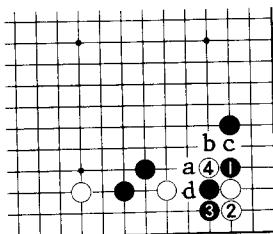


Diagram 3

Diagram 2. With dignity

If Black answers by extending to 2, by first forces with the hane and connection of 3 and 5; continuing with the sequence up to 11, White can live in a very dignified manner. You can say that White has taken splendid advantage of the thinness of the large-knight enclosure.

Diagram 3. Black fights back

Black 1 is a strong move, but it's also a bit dangerous. Just one example is White's descent to 2 and cut at 4. After the continuation of Black 'a', White 'b', Black 'c', White will cut at 'd' and the situation ends up depending on a ladder. If Black connects with 3 at 4, White will link under at 3, making life easily.

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About the Author: Cho Chikun is the foremost Korean practitioner of the game of Go. He began his professional study at the age of 6, becoming the youngest-ever professional at 11. At the age of 24, he won the prestigious Meijin title, and is the only Go player ever to have held all four top Japanese titles at the same time.

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